BUTANE-PROPANE News

HEADQUARTERS FOR LP-GAS INFORMATION SINCE 1931

JANUARY, 1948 — 50c per Copy

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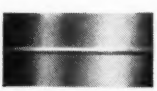

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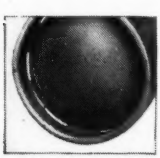

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CONTAINERS FOR GAS

ITH EVERY YEAR!

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- ible, depth-controlled stamping
- t tare weight—adequate strength
- cial improved heat treatment
- nimum seam area
- nplete finishing procedure
- ay controlled, smooth, neat-
  pearing circumferential weld
- alloped" foot ring

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QUIDS AND SOLIDS

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BUTANE-PROPANE *News*

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LETTERS

Gentlemen:

I will appreciate it very much if you will give me some information on underground and aboveground propane tanks made under ASME Code of Construction, PAR U-201.

These tanks are priced at a much lower rate than the tanks I've been handling, but I would like to know if you recommend the U-201 tanks.

F.B.C.

Missouri

The use of ASME U-201 construction for liquefied petroleum gas tanks is recognized by the National Board of Fire Underwriters and the vapor pressure of the gas allowed to be put into these tanks is given on Page 24 of Pamphlet No. 58.

You will notice there that a type 200 container designed according to Par. U-68 or U-69 has a designated working pressure of 200 psi, while for the same gas a tank designed from Pars. U-200-U-201 must have a working pressure of 225 psi.

In comparing your prices be sure that you are comparing a 200 psi Par. 68 tank with a 225 psi Par. U-201 tank.—Ed.

•

An article recently appeared in BUTANE-PROPANE *News* where a question was asked as to the effect of butane and propane on leather diaphragms. The answer given in your publication was that butane and propane caused leather diaphragms to shrink and that synthetic diaphragms should be used.

Frankly, I have not had an opportunity to read this article myself, but several of my associates in the company feel very strongly that this statement should be corrected. When butane or propane in the gaseous state comes in contact with leather diaphragms which are properly treated with diaphragm dressing, neither the gaseous butane nor propane have any effect on the leather whatsoever. It is only when butane or propane in the liquid state comes in contact with the leather that bleaching or shrinking is encountered.

I know that you will be glad to take whatever steps are necessary to correct the misunderstanding which has been created.

JOHN VAN NORDEN,
Manager, Sales Promotion,
American Meter Co.

New York

•

Gentlemen:

We have a customer who has a liquefied petroleum gas installation which is apparently using too much gas and we are seeking information regarding it.

He has a side arm for a 30-gallon hot water heater, 1 12,000-Btu heater, 1 cook stove, 1 coffee urn, and 1 60,000-Btu heater connected to a 500-gallon LP-Gas storage tank.

He used all of the 500-gallon storage tank of gas on the above listed appliances in 1½ months. The cook stove is in operation approximately three hours daily (oven and all), the 12,000 Btu heater operates continuously, the water heater operates approximately five hours daily, and the 60,000 Btu heater operates approximately 15 hours out of every 24.

Do you believe that under this

set-up he should have used that much gas in 1½ months? We thought perhaps that there was a leak in the line, but so far have been unable to detect any.

We cut off all appliances and connected the manometer to the cook stove burner orifice, then we shut off the gas at the tank, and the manometer pressure dropped very slowly. Would not this indicate that there is a leak some place? After doing this, we used the soap and water test on all joints but did not find any leaks.

Approximately how many gallons of gas per hour will each of the above listed appliances use, separately? How many Btu's would there be in a 4-burner cook range with oven? And how is the best way to figure how many gallons of gas will be used per hour on these jobs installed?

E.B.

New Mexico

Your customer is not using an undue amount of gas considering the equipment connected.

On Pages 44-45 of the March, 1947, issue of BUTANE-PROPANE *News*, there is a table showing the orifice sizes on different stoves. Most stoves have three standard and one giant top burner. These have No. 70 and No. 68 orifices. Oven burners are about No. 55.

On Page 188 of the "Handbook Butane-Propane Gases" is given the output of various orifices

From this, the stove will consume:

Burners	Orifice	Btu's Per Hr.
3 top	No. 70 @ 5,490	= 16,470
1 top	No. 68 @ 6,720	= 6,720
1 oven	No. 55 @ 18,500	= 18,500
		41,690

A side arm for a 30-gallon water heater will use about 21,000 Btu per hour. The coffee urn will use about 6000 Btu per hour.

Appliance	Hours	Btu's
Stove	3 @ 41,690	= 125,670
1 heater	24 @ 12,000	= 288,000
1 heater	15 @ 60,000	= 900,000
Water heater ...	5 @ 21,000	= 105,000
Coffee urn.....	12 @ 6,000	= 72,000
Btu's per day.....		1,490,670

Assume your LP-Gas is a mixture of propane and butane with a heat value of 98,000 Btu per gallon. Then:

$$\frac{1,490,670}{98,000} = 15+ \text{ gallons per day.}$$

$$45 \times 15 = 675 \text{ gallons consumption for a 45-day period.}$$

If you will follow through on this method of calculation, it can be used for any other installation.—Ed.

•

Gentlemen:

Please send us as soon as possible information concerning the changing of fresh meat refrigeration trucks from ice to LP-Gas. The firm in question would like to change both the motor and the refrigeration to LP-Gas.

J.R.

Indiana

Some years ago a company introduced a refrigeration unit that utilized the latent heat of evaporation of the LP-Gases used in the truck engine to keep the truck bodies cool.

We do not believe this unit is available now but the practice in the West is to operate a small engine driven refrigerating unit mounted on the reefer body to thermostatically keep the temperature in the truck body correct.

Equipment is available to convert both the truck engine and the refrigerator engines to run on liquefied petroleum gas.—Ed.

•

Gentlemen:

Would like to ask a few questions about freeze-up on propane tanks. What can we do about it? We have had a lot of trouble. How can we get the water out of the tanks when we install them? Is there a difference in regulators?

G.C.

Nebraska

The problem of freezing in regulators is caused by moisture, even in minute amounts, carried in the fuel.

This moisture may get into the fuel from test water in the tanks, from water in the transport tanks, or due to lack of dehydration at the point of manufacture.

If the regulator is set so only vapor reaches the seat, the possibilities of freeze-up will be reduced.

This can be accomplished by the use of a small surge chamber ahead of the regulator

with the piping to the regulator arranged so it takes off from the vapor space and also can drain back any droplets of liquid that might be entrained.

A regulator set in such a way that the inlet line can trap, will cause the formation of liquid in the inlet line if the temperature around the inlet line is only a few degrees lower than the temperature of the liquid in the tank.

The heat required to vaporize this liquid as it goes through the regulator is so great that temperatures at the seat of the regulator are lowered to a point below freezing so if any moisture is present it will clog up the regulator.

Undersized regulators tend to cause the same trouble and will freeze up faster than a properly sized one.—Ed.

•

Gentlemen:

I would like to know if LP-Gas would be satisfactory to heat a greenhouse with. Would the fumes harm the plants?

J.C.

Oklahoma

Butane and propane are widely used for heating green houses and instead of the fuel being injurious to plant life, it is helpful. You can feel perfectly safe in recommending it for such purposes.—Ed.

Gentlemen:

We had an accident in which a dropped match, which failed to ignite the pilot light on the water heater, touched off a pocket of gas at floor level and burned a serviceman.

We would like to know what practices have been adopted to check combustibility of gases on the floor of cellars and manholes to prevent a recurrence of accidents of this type.

L.E.D.

New Jersey

Most servicemen acquainted with LP-Gas check for leaks by soapsuds before lighting matches.

In general, only fully automatic safety pilot and main burner shutoff controls are used on liquefied petroleum gas appliances. If the water heater was a converted unit formerly used on natural or manufactured gas, the serviceman should have used unusual caution when lighting it.

The use of a bellows to agitate the air and dissipate any combustible mixture is one way of being cautious.

For manhole work, we recommend the use of a combustible gas indicator before entering for work. These are portable and relatively inexpensive.

Installation of LP-Gas appliances in cellars that do not have bottom venting is frowned upon by cautious operators in the industry. —Ed.

•

Gentlemen:

We have had several inquiries regarding installation of emergency propane heating installation in districts where natural gas is the main fuel supply. One particular case is a 250 bed hospital and as we are unfamiliar with this type of installation we would appreciate any information you have available. We would appreciate hearing about any instances of this type of installation in the States which appears satisfactory.

We realize for this hospital to operate entirely on propane gas would be very impractical due to the terrific consumption there would be, and the resultant expense. However, for cases of emergency, even a 1 week shut-off of natural gas, this hospital is prepared to accept the expenses that would be incurred by switch-over to propane.

M.B.M.

Alberta, Canada

You require a standby plant capable of taking care of the entire hospital load.

This plant should automatically vaporize and dilute the propane gas with air so all appliances in the building will operate without need of adjustment. Many such plants have been installed in the United States for industrial and commercial standby.—Ed.

• **BUTANE-PROPANE *News* welcomes letters from our readers, but it must be understood that this magazine does not necessarily concur in opinions expressed.—Editor.**

COMMENT

THE Texas Railroad Commission, which governs the use of liquefied petroleum gas in the Lone Star State, has revamped some of its regulations covering the use of LP-Gas.

According to William J. Lawson, secretary of the Texas Butane Dealers Association, "The final draft of the regulations is satisfactory and we believe the industry will find itself able to function more safely and efficiently under the revised rules."

This speaks pretty well for the Railroad Commission's understanding of industry problems and indicates that the industry members themselves will give the new law conscientious support.

•

In the first three quarters of 1947 the volume of gas automatic water heaters sold exceeded the same period of 1946 by 54.1%. And LP-Gas units were up 261.8%! Total unfilled orders at end of September: 325,093.

Domestic gas ranges for same period up 30.8%. LP-Gas ranges increased 26%. Total unfilled orders: 417,608.

Source: GAMA (Gas Appliance Manufacturers Association).

•

The National Butane-Propane Association is aggressively campaigning against foreign shipments of liquefied petroleum gas by producers and large distributors. The Association feels that new foreign markets should not be developed until the domestic demand for butane-propane gases has been met, to the end that national distributors may be able to meet the demands of their domestic customers.

Resolutions protesting against foreign shipments were first made at the national convention in St. Louis last fall and came up again at the board of directors meeting Dec. 13. Copies of resolutions and letters of protest have been sent to various Washington officials as well as to the foreign shippers.

•

Twenty dollars for a 3-year subscription to BUTANE-PROPANE *News* sounds like a healthy subscription price, but one South American firm evidently feels this magazine is worth the money.

Not only one, but three, subscriptions, totaling $60, have been ordered by this company **to be sent by air mail** to speed delivery!

The domestic airmail rate for BUTANE-PROPANE *News* is but $7 per year. Do you want to receive your monthly copy faster than by regular mail? Just tell our circulation department.

•

A recent bulletin of the Kansas LP-Gas Association, published by R. H. Mahnke, executive vice president, says that in a report released by Homegas, Inc., of Wichita, the following figures indicate the progress made by their dealers in selling and installing 1000 gallon systems:

"In the period from VJ-Day through October, 1947, Homegas, Inc., through its Homegas dealers, installed 6288

LP-Gas systems in the 97,298 farm homes of the western two-thirds of Kansas.

"During 1946, nearly 86% of the installations were 500 gal. systems and another 12% were 300 gal. systems; only 2% were 1000 gal.

"As a result of intensive dealer education, coupled with a consumer merchandising campaign begun in January, 1947, the following installations were made in 1947:

"1000 gal. systems, 58%; 500 gal. systems, 37%; and 5% were light duty systems installed where only cooking and refrigeration were desired."

•

LP-Gas dealers are becoming more advertising-minded.

One dealer in Alabama has gone so far as to devote some of his entire, large-size, newspaper space to the encouragement of community development and praise for the local chamber of commerce because of its efforts to bring more business to the community.

In other words, this dealer knows that as a community grows so will he prosper. It is a good sign when dealers build for long-term, future business.

•

The following bulletin has been issued by the Liquefied Petroleum Gas Association and dealers will do well to note it:

"Fortune Magazine is now re-researching the LP-Gas industry preparatory to a write-up for release, probably in February, 1948.

"The industry will welcome this publicity and many of our members are cooperating in the provision of the necessary data.

"It has been noted, however, that Fortune has mailed inquiries to local newspapers requesting their reporters to call on our industry and solicit additional information. In the letters, reference is made to 'the fastest growing industry in the country, supposedly netting a minimum of 25% profit from the smallest dealer to the largest oil company.'

"In view of this apparent misconception and the implication that our problems are less than those of other industries, it is important that the real facts be supplied. We believe that it would be a disservice to our members and the industry if exaggerated opinions should be disseminated.

"You are cautioned against the possibility of allowing Fortune investigators to depart with erroneous information if they call upon you."

•

As we have often emphasized in this column, dealers are overlooking excellent opportunities to make installations in new homes and new commercial institutions by not keeping in closer touch with architects, contractors, and plumbers.

All too often homes and business buildings are constructed with no proper provision made for installing or venting gas appliances. If architects and builders could be informed regarding the requirements of gas utilization equipment before plans and construction have started, dealers not only would stand a better chance of selling such installations but after they were sold it would result in better consumer acceptance and reflect more creditably upon the industry.

Watch for building permits in your local papers, hunt out your local architects and builders and tell them how well LP-Gas can surpass the other fuels which may be up for consideration. It will help you make many a sale.

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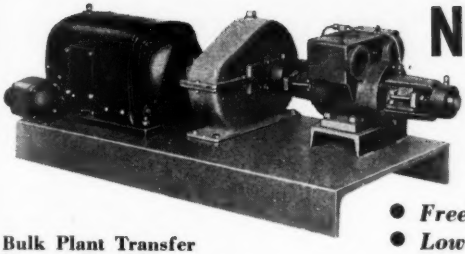
By Ed.

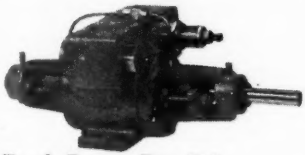


New Harman SERIES 800

- *Freedom from Vapor Lock*
- *Low Maintenance Cost*
- *Low Power Consumption*
- *No Packing Gland Problem*

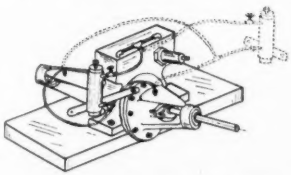
Bulk Plant Transfer Pump—Fig. 821

Includes pump and oil tight gear case on steel base. Gears in case run in oil bath and shafts are sealed. Explosion proof motor, if desired. Diff. pressures to 50 lbs. 2"—$165; 3"—$310.



Truck Pump—Fig. 819

Designed for power take-off on trucks; extremely compact. Low flanged end openings permit easy mounting; can be removed without disturbing piping. Standard speeds allow cap. of 25 to 140 g.p.m. 2"—$85; 3"—$160.



New pressure lubricator for Harman LP-Gas pumps. Reservoir may be mounted on pump or in accessible remote position as shown by dotted lines.

The Harman Series 800 offers a complete new pump with many outstanding features yet retaining the important vane-type principle which has proven so successful in the past. Available for all types of LP-Gas transfer, Series 800 can save you money in cost, installation and maintenance.

NEW FEATURES INCLUDE:

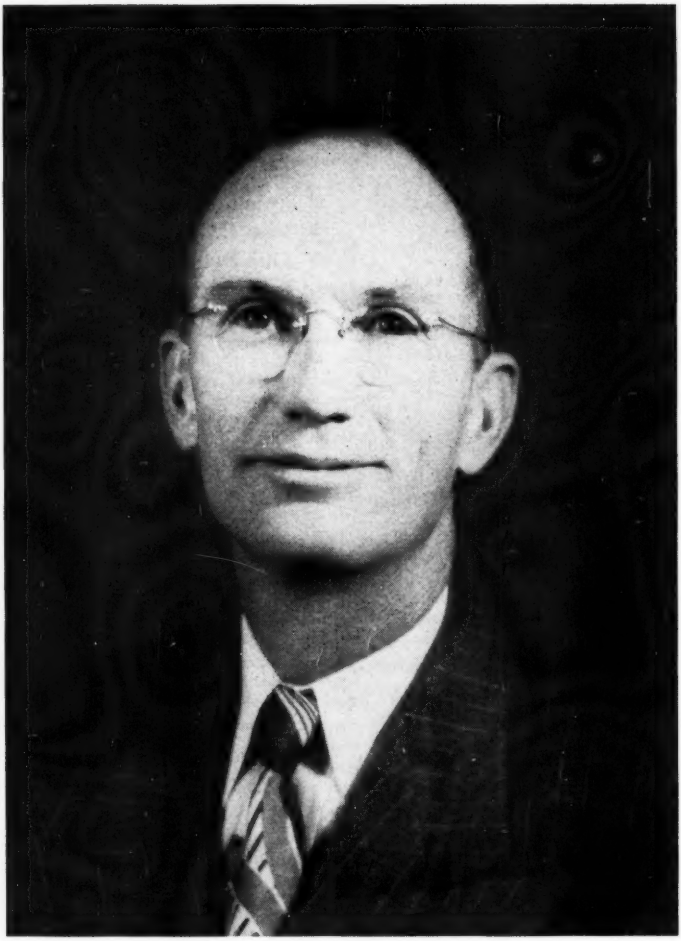
- Life of vanes (blades) has been increased many times.
- Balanced blades insure equalized pressures on both sides of blades.
- Pump shaft is carried on independently lubricated outboard precision ball bearings. No bearings run in pump fluid.
- All parts are standard and replacement can be made in field without special tools or skilled mechanical ability.
- Flanged connections permit easy installation or dismounting.
- New design results in greater capacities and higher pressure differentials.

PRESSURE LUBRICATOR INSURES SEAL

All Series 800 pumps for LP-Gas are supplied with pressure lubricator at additional cost of $12.00. This supplies ordinary lubricating oil to packing glands providing an oil seal at all times. Packing does not dry out and pressures are equalized regardless of pumping pressure differentials. Lubricating oil cannot flow back into pump even though it is not running.

HARMAN PUMP COMPANY

1110 E. 14th Street **Los Angeles 21, California**



DAVE McCURDY
Guest Editor for January

What Time Is It?

By DAVE McCURDY
President, New Mexico Liquefied Petroleum Gas Association

WHAT TIME do you say it is?

It is time that we LP-Gas dealers slow down long enough to take an inventory of the service we are rendering to our customers.

During the last two years, all of us have increased our business to the extent that we have been forced to sell new appliances which we have not been trained to service and to employ many inexperienced men. These new appliances present a new problem to the old employes, as well as to the employer; and all of the appliances, both new and old, present a new problem to the new employe.

It is time that we dealers demand that the manufacturers of the newly designed appliances properly train us to use them. A dealer who recently purchased eight units of a newly designed appliance called on the manufacturer for help. The manufacturer referred him to the salesman to whom he had given the order. The salesman admitted that this was a new line with him and that he knew nothing about servicing it. It is time for manufacturers of LP-Gas appliances to realize that only those who properly service their appliances are going to survive.

It is time that we dealers refuse to take a job that we do not have the time to install properly. Unless we have a trained man to do a job, we owe it to our customers, to our employes, and to ourselves to turn it down. Every dealer should have a follow-up man whose duty it is to call on the customer a few days after any installation to check the adjustments and the vents and to make sure that the customer understands how to use the appliance properly.

It is time that both manufacturers and dealers stop selling gas appliances until they are thoroughly convinced that we can sell a gas service with them.

Now is the time.

LP-Gas Sales Gain 30% in 1947

Domestic Volume in Past Year Exceeded One Billion Gallons

By R. W. THOMAS* and K. W. RUGH**

THE liquefied petroleum gas industry continues its rapid growth. Within the past three years the total sales of the industry have more than doubled, reaching an estimated total volume in 1947 of 1,845,000,000 gallons. The estimated increase in volume sold in 1947 over 1946 is almost equal to the total volume sold in 1941, the last year of normal activity preceding World War II.

Liquefied petroleum gas in all of its uses is experiencing a greater and more widespread demand and acceptance than in previous years. By no means was the market demand satisfied during the past year. The volume sold was limited by a combination of several factors, such as insufficient production of appliances and utilization equipment, shortage in transportation facilities, and inability to obtain necessary materials to construct additional facilities for production of liquefied petroleum gases. A large unfilled demand for these products continues to exist and cannot be fully satisfied until these shortages are overcome.

LP-GAS GROWTH IN 1947

Total sales—1,845,000,000 gals. Up 30%.

Domestic sales—1,000,000,000 gals. Up 31.8%.

Number domestic accounts—4,500,000, totaling 20% of all homes using gas.

Industrial sales—285,000,000 gals. Up 11.6%.

Sales to utilities—Up 55.8%.

Chemical sales — 415,000,000 gals. Up 34.9%.

Exports—3% of total U. S. sales.

Number of LP-Gas town plants—330.

* * *

Water heater sales—20% of total sales and double number sold in 1946.

Refrigerator sales—up 100%.

Range sales—25% of total sales.

Floor furnaces—15% of total sales.

Domestic Use Up 31.8%

The estimated increase in the volume of liquefied petroleum gas sold for domestic purposes in 1947 over that sold in 1946 exceeded the industry's total sales for domestic use in 1941. It is estimated that sales for domestic purposes in 1947 will exceed 1,000,000,000 gallons. This is

* Manager, Research and Development Department, Phillips Petroleum Co.

** Manager, Philgas Division, Sales Department, Phillips Petroleum Co., Bartlesville, Okla.

Ross W. Thomas

greater than the industry's total sales for all uses in a year as recent as 1944 and it is almost equal to the total volume sold by the industry for all purposes two years ago.

These figures indicate the tremendous demand for liquefied petroleum gas for homes, institutions and commercial establishments situated beyond the gas mains. It is estimated that at the close of 1947 there were approximately 4,500,000 homes using LP-Gas for household purposes. This means that approximately 20% of the homes using gas, whether natural, manufactured or LP-Gas, are being served by the LP-Gas industry.

It is estimated that approximately four times as many automatic water heaters were sold for LP-Gas in 1947 as in 1946. Probably 20% of the total automatic water heaters made in 1947 went to LP-Gas users. It is believed that in 1946 only 10% of the total automatic water heaters produced went to LP-Gas customers.

Indications point to twice the sales volume of household LP-Gas refrigerators in 1947 as in 1946. The demand for these appliances was far from satisfied even though the number sold was doubled over the previous year.

It is estimated that 25% of all the gas ranges manufactured in 1947 were installed for LP-Gas customers.

House Heating Load Is Heavy

The increasing acceptance for LP-Gas for house-heating is indicated by the estimate that better than 15% of the floor furnaces manufactured in the country are made for LP-Gas. The number of central heating units connected to LP-Gas does not represent a large portion of the total manufactured. However, the demand is increasing each year.

Because of increases in all elements of operating costs and in equipment costs it has been necessary generally for the industry to increase the charges to customers for making new installations. In spite of these increased charges distributors must invest more capital per new customer than formerly. Increased amounts of capital per customer are, therefore, required by the operating companies.

Higher costs in all phases of the business have resulted in the industry generally raising gas prices to consumers. Since the inception of the household use of liquefied petroleum gas, greater use has resulted in lowered costs due to increased operating efficiency and to greater saturation of customers. During the past year the upward spiral of costs has made necessary installation charges and gas price increases.

Great strides were made in increasing the storage capacity of installations for homes using LP-Gas for house heating. Because of the inability of the industry to immediately supply the winter peak requirements of customers using LP-Gas for house heating, experience has indicated the necessity for larger consumer storage. The industry is to be congratulated upon the results of its efforts during 1947 in installing greater gas storage capacity for domestic users.

Kenneth W. Rugh

Industrial Use Increases 11.6%

There has been considerable unfilled demand for new industrial installations. The inability of the industry to supply LP-Gas to many prospective users has limited the number of new industrial LP-Gas installations. Some increase in consumption of LP-Gas in existing industrial installations has taken place; however, most of these manufacturers have long been operating at near capacity, hence the opportunity was not great for increased gas sales during the past year to these existing installations.

Many industrial concerns normally using either manufactured or natural gas are installing "standby" storage of LP-Gas to satisfy their industrial fuel requirements during the winter months when the heating load demand experienced by the gas companies exceeds their gas manufacturing or transmission capacities and forces curtailment of gas supplied to industrial customers. The industrial use of LP-Gas for 1947 is estimated as 285,000,000 gallons, an increase of 11.6% over the consumption for the same use in 1946.

Utility Use Expands

The use of LP-Gas by utilities is estimated to have increased 55.8% in 1947 over the previous year's consumption. The greater portion of

TABLE 1. MARKETED PRODUCTION OF LP-GAS

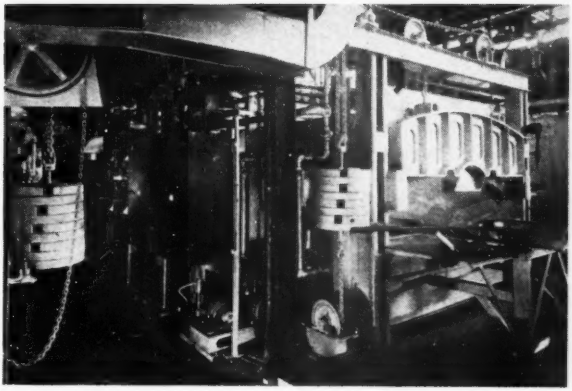
Year	Total Sales Gallons In Thousands	Total Sales Per Cent Increase	Distribution—1000 Gallons Annually: Domestic	Per Cent Increase	Industrial & Miscellaneous	Per Cent Increase	Gas Manufacture	Per Cent Increase	Chemical Manufacture	Per Cent Increase
1922	223	..	(1)		(2)					
1923	227	24.4								
1924	376	36.0								
1925	404	7.2	*Sale of Liquid Petroleum Gas Confined Primarily to Bottled Gas Business Prior to 1928*							
1926	465	15.2								
1927	1,091	134.6								
1928	4,523	314.6	2,600	..	400	..	1,500	..	...	..
1929	9,931	119.6	5,900	126.9	1,500	275.0	2,500	66.7	...	..
1930	18,017	81.4	11,800	100.0	2,200	46.7	4,000	60.0	...	..
1931	28,770	59.7	15,295	29.6	7,172	226.0	6,303	57.6	...	..
1932	34,115	18.6	16,244	6.2	8,167	13.9	9,703	53.9	...	..
1933	38,931	14.1	16,626	2.3	13,987	71.3	8,318	−14.3	...	..
1934	56,427	44.9	17,681	6.3	32,448	132.0	6,298	−24.3	...	..
1935	76,855	36.2	21,380	20.9	47,894	47.6	7,581	20.4	...	..
1936	106,652	38.8	30,014	40.4	67,267	40.4	9,371	23.6	...	..
1937	141,400	32.6	40,823	36.0	62,610	(c)	11,175	19.3	26,792	..
1938	165,201	16.8	57,832	41.7	62,694	0.0	12,386	10.8	32,299	20.5
1939	223,580	35.3	87,530	51.4	93,723	49.4	15,435	24.6	26,892	−16.7
1940	313,456	40.2	134,018	53.1	124,482	34.5	20,285	31.4	34,671	29.0
1941	462,852	47.7	220,722	64.7	172,669	38.6	25,255	24.5	44,206	27.5
1942	585,440	26.5	299,559	35.7	201,447	16.7	31,366	24.2	53,038	20.0
1943	675,233	15.3	339,380	13.3	242,978	20.6	37,519	19.6	55,356	4.4
1944	898,071	33.0	445,617	31.4	254,590	4.8	45,879	22.3	151,985	175.0
1945	1,067,979	19.0	533,262	19.7	256,577	0.8	53,849	17.4	224,291	47.5
1946	1,425,000	33.5	763,000	43.1	257,000	0.2	80,000	48.6	325,000	44.8
1946	1,415,840	32.6	766,150	43.7	255,375	−0.5	86,660	61.0	307,655	37.1
1947	1,845,000	30.3	1,010,000	31.8	285,000	11.6	135,000	55.8	415,000	34.9

(1) Household use plus other requirements by these customers such as irrigation pumping, tractor fuel, flame weeding, chicken brooding, and similar uses. Included also is LP-Gas sold by domestic distributors but used for industrial purposes, internal combustion engine fuel and for gas manufacturing purposes.

(2) Includes LP-Gas sold for fueling internal combustion engines.

(c) Not comparable due to segregation of chemical manufacturing.

REMARKS: In this table "Total sales" for all years except 1947 were obtained from U. S. Bureau of Mines reports. "Distribution" for the years 1931 to 1946, inclusive, was obtained from the same source. All other volumes were estimated by the writers. The total sales volume includes all liquefied petroleum gases (propane, butane, and propane-butane mixtures) when sold as such. Until 1944 the sale of pentane when sold for any purpose other than motor fuel blending was included. Since then it has been excluded. It does not include butane when blended with heavier petroleum fractions for motor fuel purposes. Intercompany sales transactions such as purchases of liquefied petroleum gases by one company from other companies and resold as liquefied petroleum gases, have been eliminated in order to avoid duplication of sales figures. The data do not reflect sales of liquefied petroleum gases used directly by the producer at the point of production, for fuel, polymerization, solvent de-waxing, etc. Neither do the figures include sales of hydrocarbons to plants manufacturing synthetic rubber or aviation gasoline or their components.



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Large LP-Gas-fired furnace for heat treating automotive parts.

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this increase is attributable to the larger utility companies who are using LP-Gas to a limited extent continuously through the year to offset a shortage in supply of either manufactured or natural gas. Their principal demands have been to fill large numbers of 30,000 gallon tanks which are maintained as "standby" storage to meet winter peak load heating requirements.

The interest by utilities in LP-Gas during the past year has been unprecedented and from all indications will continue. Utilities are finding that it is less expensive to install LP-Gas facilities and use LP-Gas for augmenting their present supply or for standby than to install additional manufacturing capacity or pay higher demand charges to the pipe line companies for natural gas supplied during the peak demand periods only.

Because of the inability of the LP-Gas industry to make firm commitments for additional sales, there was a relatively small number of small-town manufactured gas plants converted to use LP-Gas exclusively this past year. At the close of

LP-Gas tank car loading rack.

1947 there were approximately 330 small town gas plants using LP-Gas exclusively for distribution through the mains.

The use of LP-Gas by the chemical industry continues to increase principally for conversion to chemial intermediates. To guarantee obtaining these raw materials, new chemical plants are locating adjacent to the points of production of LP-Gases. This has resulted in much LP-Gas being delivered either in the liquid or gas phase by pipe line from the points of production to the chemical plants. It is estimated that 415,000,000 gallons were consumed by the chemical industry in 1947. This represented an increase over 1946 of 34.9%.

Highlights of 1947

Individual companies, national and state associations and regulatory authorities have been active in the development of additional safety standards and in promoting safe practices. National Board of Fire Underwriters' Pamphlet No. 58 entitled "Standards for the Design, Installation and Construction of Containers and Pertinent Equipment for the Storage and Handling of Liquefied Petroleum Gases as Recommended by the National Fire Protection Association," continues to be accepted by the industry and by regulatory bodies as a code of safe practices.

The amount of LP-Gas exported continues to represent approximately 3% of this country's sales. The largest volume of these exports moved to Canada and Mexico. During the past year a dry cargo ship was converted to a propane tank ship which is scheduled to carry propane from the Gulf to the eastern seaboard. There is an increased

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Heavy duty dump truck powered by LP-Gas.

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Typical bottled gas plant.

interest in the use of skid-tanks as deck cargo for the export of LP-Gas. Some of the present export business is in ICC cylinders.

There was a tremendous increase in the number of "trailer homes" which installed LP-Gas equipment in 1947. While many of these installations were placed on mobile trailers used for pleasure and outing trips, the great majority were used to supply continuous gas service for ordinary domestic use in "trailer homes" which for the moment are stationary and which are so used to ease the housing shortage.

There is a huge potential supply of propane existing in gas streams but unrecovered at the present time. To segregate any significant volume of this potential supply requires much additional equipment costing considerably more than the extraction facilities which have been installed.

In the case of propane from natural gas sources, increased quantities are being secured generally by expensively increasing the recovery efficiencies of the extraction units to obtain a greater percentage of the propane available in the streams being processed. Frequently the added investment per gallon is as much as three times the amount invested in the past for facilities for lower recoveries.

In the case of material secured from refineries it is usually necessary to first replace the extracted material with fuel oil or natural gas since the unextracted LP-Gases are generally consumed as fuel at the refineries. It is necessary generally for the refinery to install new extraction and purification equipment in order to produce specification products.

The increased cost of additional production facilities today is magnified by the rising costs in both material and labor. All these factors have contributed materially to the increased cost of propane. Butane has been rather completely recovered for several years.

Selling Bottled Gas In Brazil

AMERICO BAN, "Director Superintendente of the Cia. Mineira de Gaz Combustivel," of Belo Horizonte and Rio de Janeiro, Brazil, was in New York and other United States cities late this fall to study the liquefied petroleum gas industry in the United States.

AMERICO BAN

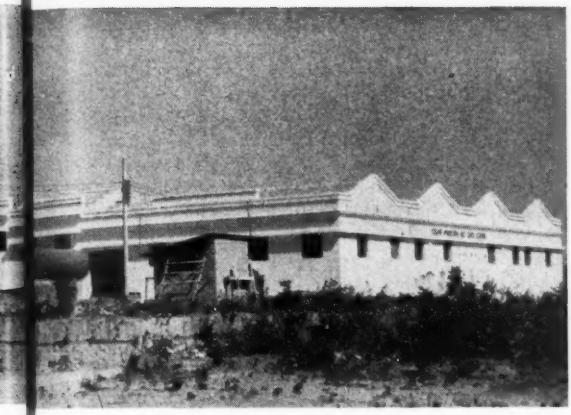
Mr. Ban explained that his company has a factory which manufactures stoves and other consumer equipment, as well as cylinders and equipment for LP-Gas distribution. While in New York he visited the Eastern office of BUTANE-PROPANE *News*, and supplied the accompanying photographs of his company's operations.

Mr. Ban made the following statement about his company:

"The Cia. Mineira de Gaz Combustivel enjoys the privilege of exclusive distribution of LP-Gas in the capital of Minas Geraes state, named Belo Horizonte. This city has a population of over 350,000. It is the richest city of the same size in the country, and shows the greatest increase in population, proportionately.

"The ground belonging to the company measures 20,000 square meters, and the buildings of the company occupy an area of 5000 square meters.

"The output capacity of the fac-



General view of the "Cia. Mineira de Gaz Combustivel," at Belo, Horizonte, Brazil.

tory is 1500 stoves a month in eight working hours, and it can be duplicated by putting on a night shift."

Mr. Ban stated that the company's gas supply concession expires Oct. 5, 1959, and can be renewed "by an option given by the proper authorities."

He said that the company has installed about 2500 stoves and heaters in the city of Belo Horizonte. They obtain their gas supply, he said, from Shell Mex (Asiatic Petroleum) and other companies in Houston. They have been in operation about two years.

Small cylinders for domestic use in Brazil.

More than 1000 resort and permanent cottages above Grand River Dam use LP-Gas for fuel. Many customers also are in the towns of Disney and Langley on each side of the dam.

Large Storage Gas Systems Bring Consumer Satisfaction

By O. D. Hall

OKLAHOMA in the past has not been generally regarded as a great summer resort state, but W. D. Lance, of W. D. Lance, Inc., of Vinita, Okla., in 1946 saw the possibilities of building a big LP-Gas load in the Grand Lake recreational area of northeastern Oklahoma.

In less than two years he boosted his sales from one-truck deliveries to approximately three-quarters of a million gallons a year.

Most of this load comes from residential and small commercial customers, although farmers furnish a share of the demand.

Returning from military service at the end of World War II, Mr. Lance, with a backlog at that time of 19 years' experience in the business, looked over the four-counties area surrounding the Pensacola dam on Grand river and decided to locate at Vinita. He took over the business of a small dealer with one delivery truck, settled in a 14x14-ft. frame building in the center of a rubbish-strewn lot at 335 South Wilson, on U. S. Highway No. 66, and started putting his one delivery truck through the paces on country roads in the vicinity.

Having gained most of his experience through employment with the Skelly organization, he acquired independent Skelgas dealerships in Vinita, Fairland, Afton, Grove and Jay, Okla., and later established stores in the latter two towns and

launched his rapid expansion program.

The one and one-eighth-mile long Grand river, or Pensacola, dam had been built a few years before by the State of Oklahoma with $22,750,000 in loans and grants by the federal government through the Public Works Administration. The state operated it for a while as a hydro-electric and flood control project, then turned it over to "Uncle Sam" for war and defense plant operation. The dam was recently turned back to the state.

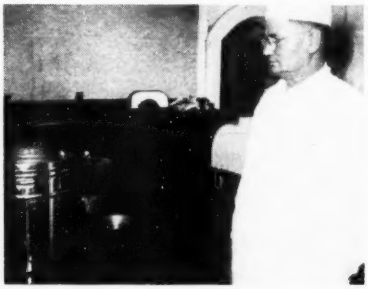
Grand Lake, formed by the dam, with 1300 miles of picturesquely inletted shore line, offered ideal locations for summer cottages and permanent country residences, while the coves and inlets of tributary streams offered natural facilities for docks and boat harbors. Although development had been slowed by the war, many cottages had been built and several towns in the four-counties area of Ottawa, Craig, Delaware and Mayes, boasted of fishing and boating docks at or near their borders. Here people were coming from many points in the South and Middlewest to fish, hunt, golf, enjoy aquatic sports, and many just to spend their remaining days in retirement.

Here was a ready-made opportunity and Mr. Lance was quick to embrace it. He saw the resort area expanding with the end of war and the lifting of building restrictions. He spent probably 75% of his time visiting among tourists and residents of the towns bordering the lake, getting personally acquainted with them, ascertaining their fuel needs and spreading its virtues.

W. D. Lance here surveys a $125,000 stock of LP-Gas appliances and other merchandise. Equipment and other supplies are stocked in adjoining warehouse.

A part of the Lance transport and delivery fleet in front of the firm's headquarters in Vinita. This stands in front of the 14 x 14 ft. frame building in which Mr. Lance started business two years ago and which he will now convert into a private office. Left to right: W. D. Lance, Vincet Elliot, Tom Southern, Rhodes Jackson, Jess Hosey and Charles West.

The result—he now has more than 1000 customers along the lake shores and hundreds more in the towns of Langley and Disney, at the dam and in Ketchum, Bernice, Afton, Spavinaw, Grove, Adair Jay, Big Cabin and in other towns and on farms within a 50-mile radius of Vinita.



Fred H. Chapman prepares Sunday dinner on big Garland LP-Gas range in his cafe on U.S. Highway 66 near Vinita. He says his gas bill for this range, a circulating heater, food warming table and large water heater, all operated on LP-Gas, averages but $12 per month—and he keeps open 18 hours per day.

While most of his installations are domestic, he serves scores of restaurants, cafes, small hotels, night clubs, filling stations, and tourist camps in the towns and along transcontinental highway No. 66 and other hardsurfaced roads in that section of the state.

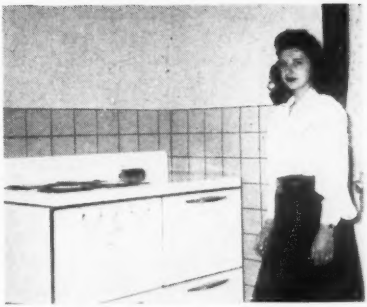
Added Stock

As its business grew, the firm decided to add to its stock in Vinita and branch stores natural gas, coal, oil, wood and electric appliances. In its Vinita store it established a stock of general hardware, paints, wallpaper, floor coverings, pumps, building and plumbing supplies.

Without investigating, one might assume that the 150-ft. high dam, capable of generating 200,000,000 kilowatt-hours of electricity per year, publicized as "low-cost power," would be stiff competition for LP-Gas in the immediate area. Op-

erating, however, almost under the shadow of the hydro-electric plant which is only 12 miles southeast of Vinita, Mr. Lance stated that its proximity presents no competitive problem for him. He explained that the Grand River Dam Authority retails no electricity in the vicinity but sells its power at wholesale rates at the borders of towns having municipally-owned plants and to privately owned public utility companies for distribution over their own transmission and distribution lines.

"We get along harmoniously together," explained Mr. Lance. "As much as possible our firm stays in its own field, supplying LP-Gas for space and water heating and for cooking. Our gas can compete with electricity at the lowest rates available here."



This automatic range, a 50,000-Btu floor furnace, and a 30-gal. automatic water heater, all burning LP-Gas, give beauty, comfort and economical living to the Carpenter home.

As an example of these harmonious relations, the Lance firm supplies LP-gas fuel to the homes of 23 employes of the Grand River Dam Authority who live on the right bank of the river below the dam in

Typical lake cottage on shores of Grand Lake, owned and occupied the year 'round by the Paul Carpenter family. This home is 100% heated by LP-Gas, supplied from 1000-gal. tank peeking around the corner.

what is known as Grand Village. All of these homes utilize LP-Gas for heating purposes supplied from a central storage system.

Capacity to Suit Needs

Mr. Lance has lived, advertised and preached the doctrine of adequate storage on the customers' premises. He believes that the dealer and the customer have a mutual interest in adopting this principle. After explaining why this is so he usually has no difficulty in persuading the customer to put in adequate tank capacity.

"Before selling a new system or recommending additional storage, I first make a careful survey to determine what capacity the customer will require to give him a safe margin of fuel with two fillings a year, one in the summer and the other in the winter," said Mr. Lance. "I explain to the user that LP-Gas costs less to handle and the supply is more easily available in the summer than in the winter and that it is to his advantage to have sufficient tank capacity on his premises to carry him through the winter with one late summer or early fall filling. Then when winter winds blow and mud or snow clog country roads he will not have to worry about keeping warm or meeting his water heating and cooking needs."

As a result of adhering to this policy, the firm has an unusually large number of 500 to 2000 gallon aboveground and buried tanks installed on premises of residential and commercial customers. Two large 3500 and 4500-gallon transports, supplemented occasionally by tank cars, keep gas rolling from refinery to the firm's plant and to its five delivery trucks with an even flow of supply which guarantees most economical and adequate service.

"We hear much about balancing the summer with the winter load," this dealer asserted. "This is all right but we keep constantly in mind that our first duty is not to sell large quantities of gas in the summertime but to maintain a sufficient supply so that we can serve our customers well in the wintertime. We find that this policy builds good will and insures continuous expansion of our year around fuel demand. We explain that big storage capacity on premises of the dealer increases his cost of doing business which also places an unnecessary burden on the customers."

With LP-Gas 21 Years

When Mr. Lance started 21 years ago in the bottling department of the Lone Star Gas Co. in Texas, little scientific or technical knowledge about the business was available. Employes had to feel their way along and often learn the hard way. Later he was employed by the Skelgas organization in Tulsa in charge of Tulsa retail sales. He was promoted to manager at Tulsa and then transferred to Topeka, Kan. When he started in business at Vinita on Jan. 1, 1946, he had little capital but the rapid growth of his business there can be explained by his policy of fair dealing, experience, courage and recognition of the opportunities which lay around him.

Maine's forest fires out of control.

LP-Gas Men and Equipment Help Battle Maine Forest Fires

By Ed Titus

THE liquefied petroleum gas industry in the state of Maine responded to the emergency of the tragic and devastating fires there with spirit that will be remembered for many years.

Approximately 10% of the area of Maine was burned over. Thousands of families lost their homes and all their belongings.

Many in the LP-Gas business helped fight fires. The industry can be proud also that its equipment stood up the way it was supposed to. In fact, LP-Gas was used to fight the fire through backburning.

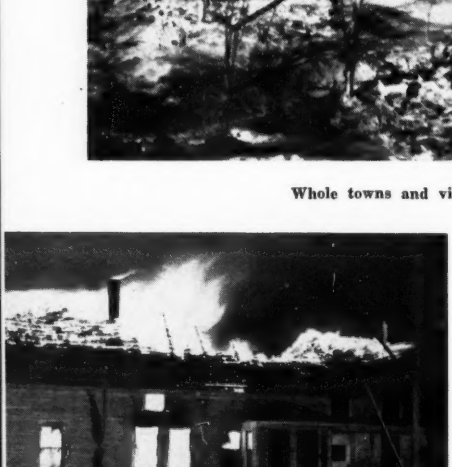
Losses were held down by industry organizations sending out men and trucks to remove tanks and gas equipment before the fires reached buildings.

Among the organizations which took an active part in meeting the emergency was Utilities Distributors, Inc., whose office is in Portland, Maine. Forty men out of its office went out to fight the fires.

The following is from an account of what happened, furnished to BUTANE-PROPANE *News*, by Peter A. Anderson, of Utilities Distributors:

"To my knowledge there were no plants burned, but there were approximately 1100 homes burned. Many villages consisting of houses, churches, etc., were completely

Whole towns and villages were devastated.



Hundreds of homes like this were razed.

wiped out. In other places two-thirds of the town was burned, and one or two houses left here and there for no apparent reason. In Bar Harbor the fire came down from Cadillac Mountain right onto the town. There was no escape in that particular section, so that they had to evacuate the citizens via the sea.

"Our dealer who has represented us in that area for 15 years called me on the phone at five o'clock in the morning when the fire was rag-

ing, and he wanted to know if we would replace the installations which were lost. His voice was husky because he had been fighting fire for three days and nights without any sleep. I assured him that if he would take a count of stock we would furnish him with a replacement for each one lost, and would also loan a small stove to each customer until they would be able to purchase a large one. He just said, 'Thank you, Pete,' and hung up.

"We figure that altogether there were approximately 200 installations destroyed.

"A few of the towns affected are North Waterford, Limerick, Hollis, Waterboro, Alfred, Biddeford, Kennebunkport; in some of these towns there was nothing left but a chimney here and there, and a couple of gas cylinders which were standing perfectly intact.

"There has not been a single report of a failure of the safety relief valve. Strange as it may seem, after they are re-annealed some of them can be put back into service.

"The night that the town of North Waterford burned, I went out with about 50 men from the Red Cross. In some instances we used propane in 20 pound cylinders to backburn. The backburning, however, was quite treacherous, as it is very difficult to backburn in the forest. From all I have learned, after the people became organized the best method was to use bulldozers and backburn after a trench was made by the bulldozer."

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D. T. Moore, manager of LP-Gas operations for Socony-Vacuum in the East, stated that in and around Cornish, Maine, his organization had about 29 customer cylinder installations burned out in the fire.

The company has agreed to stand the expense of reinstalling new equipment, he said. Not one cylinder that went through the fire showed any sign of strain, and the relief valve worked in every case, Mr. Moore stated. Socony trucks were among those going into the fire area and helping to move people out.

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A Personal Experience

By R. R. Read

"Pyrofax" District Field Manager for Maine

For 37 days there was not a drop of rain in Maine. A few lazy fires had started in the woods at several points in the state. These were kept pretty much under control by the local fire fighters in each vicinity. On Oct. 24 a freak wind blew with almost hurricane force and twisted in every direction making it impossible for fire fighters to concentrate on any one line to hold the fire back or start backfires. This occurred about four in the afternoon and the entire state was struck almost simultaneously. People in some parts became panicky and instead of staying to fight the fire they ran for the nearest refuge. The fire then swept freely in all directions, destroying numerous homes, crops and livestock.

At Bar Harbor on that day, the fire came right down to the main business section of town but by a miracle, the wind changed and went off in another direction, but many

beautiful homes were burned to the ground. The "Pyrofax" gas distributor, E. L. Lymburner, had already removed many cylinders from these summer residences a few days before the fire hit its peak.

It was unfortunate that time did not allow the removal of the cylinders from his warehouse, but the Military Control on the Island of Mt. Desert requested that the cylinder truck be used only for the removal of persons to the mainland and the truck was kept in readiness for such emergencies.

Set Up Cooking Facilities

On the following day, I had an opportunity to visit the island with special permission from the Army to assist in providing "Pyrofax" gas service for cooking for those left on the island. Mr. Lymburner cooperated with the Red Cross in setting up a "Pyrofax" gas installation and stove for the Canteen. There were no other cooking facilities available at that time, to my knowledge. Mr. Lymburner fought the fire with everyone else and as he is not a young man, much credit is due him for his valiant stand.

It wasn't until a week later, when it was determined that the fire was again under control, that all the residents were permitted to return to Bar Harbor. By that time, Mr. Lymburner's truck had been sent to the filling plant for a fresh supply of cylinders to help out everyone requiring propane for necessities. It is a great satisfaction to know that LP-Gas was the first and only fuel available to everyone who could use it for one full week before other services were available.

I again visited the area at that time and found that everything was moving slowly forward and gaining impetus. People were recovering from the first shock of the disaster and were planning reconstruction of homes. They will continue to use LP-Gas and we now have many new friends who are aware of the certainty of gas supply because LP-Gas met the emergency in splendid fashion.

Other of our areas were not affected as greatly as Bar Harbor but it is interesting to note the preparedness on the part of distributors. In North Conway, N. H., the "Pyrofax" gas distributor who serves the Brownfield area, sent a crew out and as the fire approached a home where "Pyrofax" gas was being used, the cylinder was removed from the installation and put on the truck. After the fire had passed and if the home had been saved, the distributor returned the cylinder and gave the occupant service again almost immediately. In this manner, we lost only one account at that point.

Cement Building Resisted Fire

There was considerable damage at Waterboro, Maine, but because the warehouse was made of cement block with steel roof and doors, the fire swept around the building, doing no harm to the cylinders within. Most every home in that vicinity was destroyed. Quonset huts have been shipped into this area for temporary use and we are providing installations and stoves.

After an examination of the installations burned by the fire, it may be said that nothing could be

salvaged but the cylinders which were scored by the heat but were in better condition than could be expected. Arrangements have been made by my company to provide replacement "Pyrofax" gas regulating equipment at no charge for those customers who return to their homes.

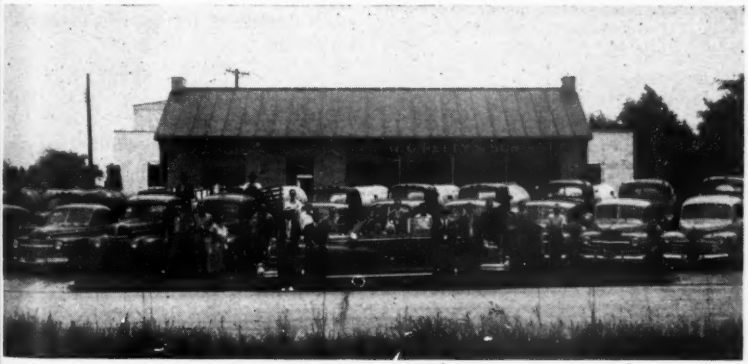
Reconstruction of burned areas is already underway and financial help is being given by both the local banks and the government. We have been able to take care of all our old customers and are prepared to care for additional ones who would be benefitted by our service.

AGA Testing Laboratories Propose Standards Changes

Five sets of proposed revisions to American Standard requirements for gas appliances and accessories recently were published by the American Gas Association Testing Laboratories. Seven technical reports on various requirements investigations were also completed and distributed to interested committees. The revisions were sent out to the industry for comment and criticism while the reports were scheduled for committee consideration later.

Revised requirements before the industry for comment cover domestic gas ranges, hot plates and laundry stoves, gas appliance pressure regulators, automatic main gas-control valves and low water cut-off devices.

Completed reports deal with operation of ranges, space heaters and water heaters on high heating value butane-air gases; effects for attaching duct work to unit heaters; temperature of unit heater elements; proposed simplification of efficiency tests for warm air furnaces and technical improvements in the method of test for operation of space heaters under conditions of a diminished oxygen supply.



Office, equipment and personnel of W. G. Petty & Sons' Memphis, Tenn., headquarters.

Bulk tanks, transports, delivery trucks and a few underground systems of Central Butane Gas Co., North Little Rock, Ark.

Two GI's Apply War Experience To Building a Butane Business

By ZOE JOHNSON

THE Central Butane Gas Co., Inc., North Little Rock, Ark., is a lusty GI concern only 20 months old but has one of the most flourishing butane businesses in the state.

J. S. Moseley, Jr., president, and J. C. George, secretary and treasurer, have put into this young business the aggressive initiative and eagle-eyed perspective that helped to win the war over every continent, for they both served in the Air Corps.

Mr. Moseley and Mr. George organized Central Butane and began business in March '46 with one employe, a colored man. Now they have 14 employes and every man in the business is an ex-GI. They operate 10 trucks and 2 large transports. Three salesmen are in their territory all the time.

Mr. Moseley says a great contributing factor to the growth of the company was starting their business at the time when the demand for butane was at a suppressed peak. Rural areas were already thoroughly conditioned and sold on the advantages of butane but hundreds of installations that normally would have been made previously had to wait till the war was over.

They have installed 1000 systems since going into business, some of them for schools and churches, and

J. S. MOSELEY, JR.

every day there are 2 or 3 calls from new customers. Mr. Moseley says there is an unlimited demand for butane and there will be no saturation point for a generation. In their appliance department they sell only butane appliances. Nothing electrical or for natural gas is on display to sidetrack customers.

To hold down overhead expenses, Central Butane confines its operations to a radius of 30 miles from Little Rock. They have designed their own trucks, with all controls built in the back, thus saving time and making tank servicing much easier.

As a precaution, they carry the maximum of insurance and their men are drilled in observance of all safety measures.

The plant of Central Butane is located in Rose City, a suburb of Little Rock, where the company has four big tanks with a storage capacity of approximately 60,000 gallons. In the season of heavy demand they deliver close to 1,000,000 gallons a month to their customers, and half that much in the summer.

J. C. GEORGE

Unloading tank car at bulk plant.

During the summer they service several rice pumps.

The only bottleneck they have right now is time. Six installation men are busy all the time, with an extra service man and mechanic to be called on a job in a pinch, and 10 trucks and 2 large transports are busy every day.

One Service to All

There is competition now and they have their methods of meeting it: quick service to customers; one price to all patrons. A wealthy customer, paying cash, cannot get a cheaper price on appliances or any form of service than a man who has to buy on installments and struggle to meet his payments.

Important influences in the growth of their business have been giving a square deal, treating customers fairly and not being too independent, according to Mr. Moseley. "When I tell someone something, that's it. I always try to live up to my word."

And Mr. George adds, "The only thing we have to sell is service, the best individual service we can possibly give."

The office and appliance display room at the Washington Ave. headquarters has an attractive platform window showing leading items of stock. In the back is an intriguing terraced display of small heaters, all sizes and models. The man in overalls who jumps out of a cotton truck and hurries in to leave his order for more gas is greeted with the same genteel courtesy as the man who steps out of a '47 model limousine to say there is a little something wrong with a gadget at his house.

Central Butane has another service, believed to be the only kind in the state—a 24-hour service station for servicing interstate transportation fleets. They have contracts with several companies and sell approximately 6000 gallons of butane per month to their fleet customers. There are no loafing GI's in this concern. They are out to make free enterprise work and democracy live.

Phillips, Atlantic Refining Plan Eastern Propane Plant

A long-term contract announced jointly by Phillips Petroleum Co. and The Atlantic Refining Co. provides for the construction of a modern propane plant in the Philadelphia area, and the marketing of its production in tank car and tank truck quantities.

The new plant will be an addition to Atlantic's present Philadelphia refinery and will make this company one of the largest producers of propane on the eastern seaboard.

Under terms of the contract, Phillips Petroleum Co. will build a 500,000 gal. propane storage and loading plant adjacent to Atlantic Point Breeze refinery. Tank car and tank truck shipments will be made to Phillips' customers from this new bulk plant.

Phillips, large marketer of liquefied petroleum gases, including both propane and butane, is a pioneer in the use of these gases for industrial application, gas manufacturing, and in homes not served by gas mains. The company has marketed liquefied petroleum gases since 1927. One of its Eastern sales offices is located in Philadelphia.

Butane-Propane Legislation

States That Have It — Where It's Pending

By ARTHUR C. KREUTZER
Counsel, Liquefied Petroleum Gas Association, Chicago

DURING the year that has just ended, the LP-Gas industry, in addition to setting new records in the production and marketing of the product as well as in the production of equipment and appliances that go along with the product, likewise achieved a new record, not to be envied, in the number of pieces of legislation that were presented to the various state legislatures.

In the year 1947 some 46 state legislatures were in session at one time or another and they achieved the somewhat dubious distinction, at least in the eyes of the industry, of considering over 100 bills that had some relation to, or affected the LP-Gas industry. Now this is no mean distinction, for there were few industries that occupied the legislative mind to a greater extent than ours.

The non-enviable position that we occupy is due in the main to two major factors, the rapid growth of this infant industry and the inherent nature of the commodity that we are selling. These factors add up to a consequent lack of information concerning the industry and its product in the legislative mind or in the collective mind of state officials or bodies who may feel or be charged with some responsibility in connection with our operations.

Art Kreutzer

The natural result to flow from such a source is legislation without a solid foundation of reason, that may not only unjustifiably restrict and handicap normal future growth but lose to the industry the gains it

THE accompanying resume of State Laws pertaining to LP-Gas operations is most timely. Legislatures in many states, when meeting this winter, will consider regulations to control transportation, storage, distribution, and utilization of butane and propane.

The industry needs and welcomes state regulations. All it asks is that they be fair to the industry and to the public, alike.

The Liquefied Petroleum Gas Association, which has persistently fought for fair state legislation and has prepared what is termed a model law based upon established safe practices within the industry, covers legislative developments in its regular bulletins to members.

Art Kreutzer has borne an important part in this program and it is appropriate that he should tell here what has been done and what is pending. Thus, dealers will be informed regarding laws in their own states and product manufacturers may better know requirements they must meet when shipping equipment into various regions.—Editor.

has made. Today it is of prime importance that every member of the industry be conscious of the industry's legislative position and willing and able to present the industry's case when occasion demands.

With the advent of 1948, 10 states have regular sessions of their legislatures on tap. They are California, Kentucky, Louisiana, Massachusetts, Mississippi, New Jersey, New York, Rhode Island, South Carolina and Virginia. Present indications are that special sessions will be called in the states of Colorado, Connecticut, Illinois, Maine, Michigan, Nebraska and Ohio. The legislature of Missouri recessed in 1947 to reconvene in January, 1948.

Thus it will be seen that at least 18 state legislatures, and undoubtedly more, will be in session sometime during 1948. Based on past performances we may expect a full measure of their attention.

There remain on the legislative calendar in Missouri two LP-Gas regulatory measures, Senate Bills 179 and 242. Senate Bill 179 is the Liquefied Petroleum Gas Association Model State Law and Senate Bill 242 is non-objectionable to the industry in that it calls for LP-Gas regulations conforming to National Board of Fire Underwriters Standards (NBFU Pamphlet 58).

Gas Fitter to Install

It is quite definite that a measure regulating LP-Gas will be introduced in Colorado. Its exact provisions are not known as this is being written. Massachusetts Senate Bill 427, which would require LP-Gas installations to be made by a licensed gas fitter, is also a holdover bill. Present indications are that it will be amended to exclude LP-Gas installations.

For a consideration of what we may expect in the field of industry legislation, perhaps the best criterion is to examine the past record. The measures that have been introduced in 1947 and in preceding years have fallen into a general pattern, that we can reasonably expect will be followed in the year to come. We have had four general types of bills introduced directly affecting the LP-Gas industry. In speaking of legislation affecting the industry, we are concerned with the measures that are

Recapitulation of State Regulatory Laws

* Regulations formally adopted.
† Regulations under consideration.

State	Basic Law	Regulatory Body
Alabama	Act 605, Laws of 1939 (Approved July 6, 1940).	*Superintendent of Insurance as State Fire Marshal ex officio.
California	The Labor Code (1937) establishes the Department of Industrial Relations with authorization to promulgate rules and regulations permitting safe working conditions.	*Div. of Industrial Safety, Dept. of Industrial Relations.
Arkansas	Act 165 of Acts 1947.	*Boiler Inspection Div., Dept. of Labor.
Colorado	House Bill 373 as approved 2-28-45. (In conjunction with H.B. 245, substantially model LPGA law.)	*State Inspector of Oils.
Connecticut	Public Act 243 of 1945 (Section 564h-567h Connecticut Law Supplement 1945) provides for the issuance of "regulations concerning the safe storage and transportation of flammable liquids" by the Commissioner of State Police.	†Commissioner of State Police.
Florida	Senate Bill 520, 1947 Session.	*Insurance Commissioner as ex officio State Fire Marshal.
Idaho	Chapter 39, Session Laws 1945 (LPGA Model Law).	Commissioner of Law Enforcement.
Illinois	Section 9, Chapter 127½, Illinois Statutes gives general powers to the Department of Public Safety regarding the control of fire hazards.	Department of Public Safety.

Recapitulation of State Regulatory Laws—Continued

State	Basic Law	Regulatory Body
Indiana	Chapter 48, Laws 1947, empowers the State Fire Marshal in the interest of public safety to promulgate and enforce rules and regulations for the keeping, storage, use, manufacture, sale, handling, transportation or other disposition * * * of crude petroleum or any of its products; * * * stoves, heaters, ranges, furnaces, and their construction, location and use; * * * and all heating or burning equipment or devices using any inflammable liquid.	*State Fire Marshal.
Iowa	Chapter 101, Code of Iowa (1946) (Substantially LPGA Model Law).	*State Fire Marshal.
Kansas	Chapter 31, Kansas Statutes (1935) (1945 Supplement) provides that the State Fire Marshal shall make regulations for the keeping, storage, use, manufacture, sale, handling, transportation and other disposition of inflammable materials * * * crude petroleum or any of its products.	*State Fire Marshal Department.
Kentucky	Chapter 227, Kentucky Statutes (1944) provides the Director of the Division of Insurance with general powers to promulgate and enforce safety regulations and regulations concerning combustibles.	*State Fire Marshal.

Recapitulation of State Regulatory Laws—Continued

State	Basic Law	Regulatory Body
Louisiana	Act 99 of the Acts of 1942.	*Louisiana Liquefied Petroleum Gas Commission.
Maine	Chapter 85, Section 42 Revised Statutes of Maine (1944) provide that the Insurance Commissioner shall make regulations relating to inflammable liquids.	*Insurance Commissioner.
Massachusetts	Chapter 148, Section 10 G.L., Ter. Ed. as amended gives the Board of Fire Prevention Regulations power to issue safety regulations.	†Board of Fire Prevention Regulations.
Michigan	Public Act 207 empowers the Commissioner of Police to promulgate regulations to safeguard the public from fire hazards (Section 3) covering crude petroleum or any of its products (Section 5).	*Dept. of Michigan State Police (State Fire Marshal).
Minnesota	Chapter 73, Minnesota Statutes (1941) gives State Fire Marshal power to condemn structures or order removal of inflammable materials endangering safety.	*State Fire Marshal.
Mississippi	House Bill 123 of 1946, "The Liquefied Petroleum Inspection Act of Mississippi."	*Motor Vehicle Comptroller.
Montana	Chapter 249, Revised Code of Montana gives State Fire Marshal authority to condemn structures and direct removal of inflammable materials hazardous to safety.	State Fire Marshal.

Recapitulation of State Regulatory Laws—Continued

State	Basic Law	Regulatory Body
Nebraska	Legislative Bill 234, 1947 Session enumerating general powers of SFM authorized the State Fire Marshal "to promulgate and enforce rules and regulations covering the design, construction, location, installation and operation of equipment for storing, handling, and utilization" of LP-Gas.	*State Fire Marshal. Board of Fire Control consisting of five members (one with experience in "the storage of petroleum products").
New Hampshire	Chapter 251, Laws of 1947.	
New Mexico	Senate Bill 232, 1947 Session.	*Public Service Commission.
North Carolina	Senate Bill 346, 1947 Session (LPGA Model State Law).	Commissioner of Insurance.
North Dakota	Title 18, Chapter 18-01, North Dakota Revised Code of 1943 provides that the Commissioner of Insurance as ex-officio fire marshal shall enforce all laws for storage, sale and use of combustibles, make rules for the prevention of fires and gives him the power of abatement of hazards.	Commissioner of Insurance.
Ohio	Senate bill 179 of 1947 Session (General duties and organization of the Office of the State Fire Marshal).	*State Fire Marshal.
Oklahoma	Chapter 8, Section 421 to 431 inclusive, Oklahoma Statutes of 1941 as amended by House Bill 507, 1945 Session, and Senate Bill 208, 1947 Session.	*State Fire Marshal as ex officio State Liquefied Petroleum Gas Administrator. Liquefied Petroleum Gas Division of three members acts in an advisory capacity.
Oregon	Chapter 375, Laws 1947.	†Commissioner of Labor.

Recapitulation of State Regulatory Laws—Continued

State	Basic Law	Regulatory Body
South Carolina	Governor's Act 132, Acts 1947, (LPGA Model State Law).	*Insurance Commissioner.
South Dakota	House Bill 17, 1947 Session (LPGA Model State Law).	*State Fire Marshal.
Tennessee	Chapter 191, Public Acts 1947, empowers the State Fire Marshal to make regulations covering the keeping, storage, use, manufacture, sale, handling, transportation or other disposition * * * of crude petroleum or any of its products * * * the materials, installation, and use of facilities, equipment, devices and appliances conducting, conveying, consuming and using * * * gas (natural, artificial, or liquid petroleum).	*State Fire Marshal.
Texas	Article 6053 of the Revised Civil Statutes of Texas of 1925 as amended.	*Gas Utilities Div., Railroad Commission of Texas.
Vermont	Act 98, Legislature of 1925 provides that the State Fire Marshal may, with the approval of the Governor, make regulations for the storage, sale, use, transportation, etc., of inflammable fluids.	State Fire Marshal.
Washington	General Powers of Department of Labor and Industries.	*Div. of Safety, Department of Labor and Industries.
West Virginia	Chapter 29, Article 3, Sections 1 to 33 gives State Fire Marshal general powers of inspection and abatement of fire hazards.	State Fire Marshal.
Wisconsin	Title 13, Chapter 101, Section 101.105, Wisconsin Statutes 1945.	†Industrial Commission.

peculiar to the industry. No consideration is being given to those bills that apply to all industries at large and consequently to LP-Gas operations, as well. The general types of legislative problems that confront the industry are:

First—Revenue and Taxing Bills.
Second—Bills Relating to Employes.
Third—Public Utility Bills.
Fourth—Regulatory Bills.

Taxes are a recognized exception to that adage, "What goes up, must come down." Any measure involving revenue to the state involves this hazard. It is doubly emphasized in those measures that have as their sole purpose the raising of state monies.

At present, there are two laws applying a specific tax to LP-Gas, the Florida Statute (Chapter 167.43-1, Statutes 1941) empowering municipalities to fix a 10% levy on purchases of LP-Gas, and the Mississippi Statutes (House Bills 1060 and 1061, 1946 Session) levying privilege taxes. In the 1947 Tennessee legislative session, a bill providing for an inspection fee, that was purely a revenue measure, failed of passage due to alert and vigorous opposition on the part of the industry.

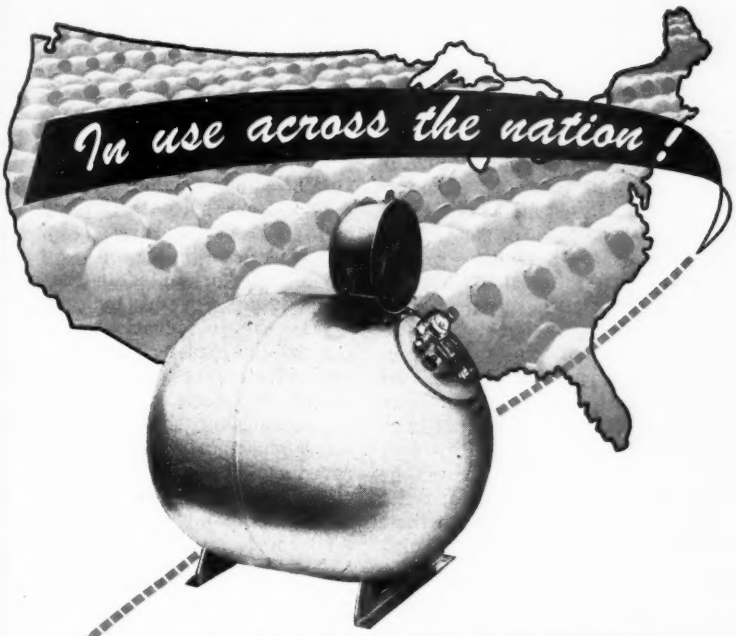
This last mentioned bill raises a point worthy of note that calls for further discussion. There are and will be many bills introduced that call for inspection, licensing, permit, or whatever they may be called, fees that are essentially revenue raising measures. It is not possible to draw a distinct line and say that all such bills that fall on the right side of this line have as their purpose regulation and the consequent ultimate end of greater safety to the industry and the consuming public. Each such measure must be weighed by itself and if the scales are overbalanced so as to indicate no relationship to safety, no safety factor, in the taxing provision, it should be seen in its true light for what it is—nothing other than a revenue raising scheme.

Watch for Unfair Levies

While we should realize our responsibility to bear our fair share of the load of legitimate governmental costs, we must ever be alert to protect our industry against discriminatory raids. In this discussion of taxes, "Use Fuel Taxes" (taxes that apply to LP-Gas when used as a motor fuel—except in California where the gasoline tax applies) have not been included. These taxes, intended to supplement state gasoline taxes, follow the general pattern of such gasoline taxes.

"Plumbing" and "gas-fitters" bills would require all LP-Gas installations to be made by plumbers or gas-fitters. Their ultimate purpose is, without reason, to gather the LP-Gas employe into and under the jurisdiction of the plumbing trade or some allied trade. Without reason, for LP-Gas installations should be made by employer-trained men, with the state LP-Gas regulations or Pamphlet 58 as a guide, rather than in accordance with steam-fitters' or pipe-fitters' codes.

These measures again arise out



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Pittock Block, Room 340 Portland, Oregon

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of lack of knowledge as to the nature of LP-Gas operations and unfortunately under the sponsorship of the plumbing trades or, in some instances, boiler inspection organizations and authorities. We have no quarrel with the plumbing or like trades, but there is no logical relationship in the making of LP-Gas installations. In most cases, education as to the nature of the LP-Gas industry has shown the inadvisability of such action.

During the 1947 legislative sessions, several of these bills appeared. None passed. Bill 427 of Massachusetts, which has been mentioned before as still pending, is one of such measures. Bills that would require installations to be made by licensed installers merit careful scrutiny to determine their purported safety factor and ultimate effect on employer-employe relationships.

Utility Distribution Is Different

Public utility bills, as the name implies, seek to declare LP-Gas operations a public utility and place LP-Gas operations under the jurisdiction of the state public service commissions. Such an action naturally would carry with it public utility regulation in rates, franchises and all other phases. As you should realize, this action is not justified by the nature of LP-Gas operations. LP-Gas distribution and marketing is not carried on in the same manner as the public utility distribution of fuel except in the case of a city LP-Gas plant. In those instances, it is rightly considered a public utility and regulated as such.

Bills of this nature arose in the states of Oklahoma and Alabama during the past year. Bills carrying this possible implication were also presented in California and Texas. In all instances the measures failed to pass and died with the adjournment of the legislatures. It is to be expected that similar bills will continue to be presented in the state legislatures. Several factors have led to the introduction of public utility bills. Among the proponents of such measures, we will find our competitive fuels, and public service commissions that desire a wider scope of authority—and consequent revenue.

Education is Best Answer

However, the gravest cause for concern is possible public demand for such regulation arising out of gas shortages or price policies. While there is serious doubt of the constitutionality in the enactment of such a law, in view of existing court decisions on the subject, such a test would probably involve long and expensive litigation for the industry. The education of the state legislatures as to the nature of our industry and the method of distribution of the product is a much better solution.

Absorbing most of the spotlight insofar as state legislation is concerned are the regulatory bills and laws. Thirty-five of our states (the box score follows this article) now have statutes on their books that either regulate LP-Gas operations directly or would authorize the

issuance of such regulations by some administrative body within the state. Twenty-two of these states have issued regulations or adopted by reference NBFU Pamphlet 58. All except California substantially conform to NBFU Pamphlet 58. Among the others, notably in the case of Arkansas, Kansas, Louisiana, Michigan, New Mexico and Texas, there are some variances that require a study of the state regulations. However, in all instances the state regulatory material should be considered for particular requirements.

Regulations are presently under consideration in 4 states. We have previously mentioned the bills pending in Missouri and the prospect of a change in Colorado. Undoubtedly there will be legislation presented in other states for this type of legislation is most fruitful.

Too Little Knowledge of Industry

Unfortunately much of this legislation springs from lack of knowledge both in the industry and among state administrative and legislative bodies. It is doubly difficult when it becomes necessary to educate our own industry not only to the fact that they have the answer to unwarranted and unjustifiably restrictive legislation in the following of safe practices, but that they are leading with their chin in seeking to promote legislation to eliminate competition. Fortunately the latter attempts are not too frequent.

Education of the industry is not enough in all cases, however. In many instances well meaning but ill advised state bodies and officials promote LP-Gas regulations without having too much knowledge as to what they do. This is particularly true in the wake of hysteria that may follow a serious accident. But here, again, the industry has the answer in its own hands. In all too many instances we cloak our operations behind an "iron curtain" that makes the Russian model seem like the last of the seven veils. We must tear aside that curtain and educate the responsible authorities, and when needs be, the legislator.

National Uniformity Is Needed

When all the shot and shell of last year's legislative sessions had been dissipated, the LP-Gas industry emerged without too much visible damage, as a study of the laws listed in the recapitulation will reveal. However, this problem of state legislation, like death and taxes, will always be with us, and in ever-increasing tempo. It is more than a local problem for it takes on a national aspect in the necessity for some uniformity, particularly in regulatory law, if the industry is to enjoy continued growth and prosperity.

State legislatures and regulatory bodies have a habit of copying matter — good and bad alike — from other states in a desire to have the latest and cover the field. State legislative reference bureaus contribute to this. Here again we have action predicated upon lack of knowledge. The answer to this is an alert and unified industry nationally. When the need for industry action arises, let the industry be not there too late with too little.

Home Study Course on LP-Gas Now Available to GI's

By Keith Clevenger

"A LOT can happen in two years," comments F. E. Farley, president of National L-P Gas Institute, Tulsa, Oklahoma, in announcing the approval by the Veterans Administration of the Institute's home study course which makes it available for ex-GIs as well as non-veterans.

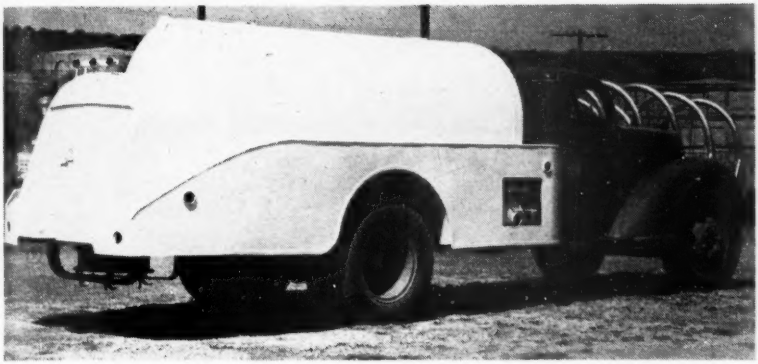
"We say this with no desire to be 'chesty'," says Mr. Farley, "but in all sincerity we believe this home study course, particularly when it is operated as a 'controlled' course by an LP-Gas firm, or group of firms, is one of the biggest things that has happened to the industry in its history, for it holds the very essence of those requirements — adequate safety practices, technical know-how and efficiency, proper and profitable operation — which are so necessary to the successful growth of the industry."

Two-Year Mark

It will be two years this month since the first training group studying the distribution technique of liquefied petroleum gas enrolled in the National L-P Gas Institute at Tulsa, Jan. 14, 1945. Since then more than 500 men, some new, some experienced, some plant owners, have taken the resident courses offered and gone to better

Burner testing section: Men in rear are running tests on two kitchen ranges; those in foreground are testing and checking a floor furnace burner.

ENGINEERED TRUCK TANKS



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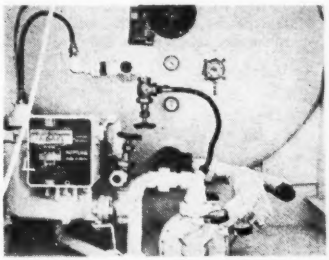

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Executive and Instructor Staff—F. E. Farley, president, seated center, flanked by (left to right) Jan Cope, Kathleen Carroll, and Norma Winters, secretarial. Standing (left to right): R. D. Lemonds, vice president and educational director; Keith Clevenger, director of personnel, placement and promotion; W. H. Scott, instructor; Robert Bradley, consulting engineer and supervisor of text materials; T. E. Wisby, instructor; H. H. Asling, instructor; Earl A. Clifford, chief instructor. Inset (lower right): Wm. A. Cowne, director personnel relation and field representative. Paul Buthod, consulting engineer and assistant text writer was unable to be present.

jobs, or returned to their former positions better qualified for their work, or better equipped to operate their business. They have come from every section of the nation, as well as Canada, Central America, and even as far away as Brazil.

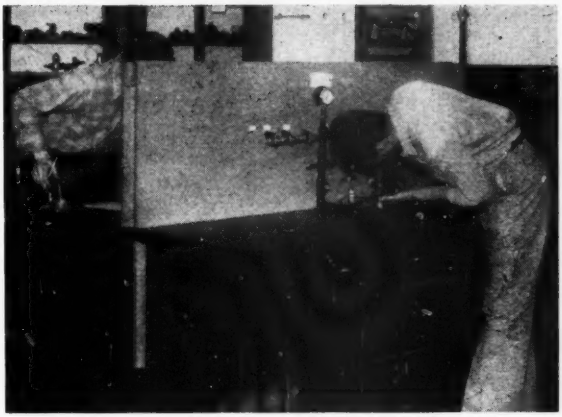
Engineering Research

During these two years the National L-P Gas Institute has not only enjoyed an increasing resident enrollment record but the gradual enlargement of its laboratory and class room facilities through the cooperation of scores of manufacturers and distributors of every type of equipment, appliances, fittings. A tremendous volume of original engineering research has also been accomplished which, in effect, constitutes a library of technical information relating to LP-Gas distribution practices and problems of highly important proportions.

As a result of this cooperative interest on the part of the industry and the manufacturers, the Institute now has two laboratories, one of which is devoted very largely to carburetion tests and experiments. Instead of one class room, with which it started, it now has four, in addition to its administrative offices, and is crowded for working room, at that.

Development of Home Study Course

Paralleling this record of steady growth, and probably of even greater importance, has been the development, by the Institute's staff of consultants and instructors, of the first complete text (512 pages) on every important phase of LP-Gas distribution practice and procedure. Until the Institute started building the structure of this



Setting a regulator for testing.

unique training program, almost inch by inch, there was no central source record for either text or laboratory experiments and tests. The immense volume of information necessary for such a text had to be gathered from hundreds of different sources. Much had to be worked out for the first time by engineers and technicians of the Institute. Then all of this material had to be correlated, tested, and compiled in text book form with supporting charts, graphs, tables, illustrations, etc.

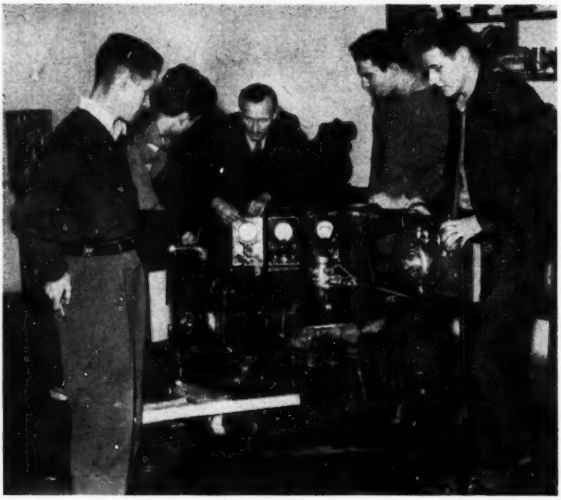
"This home study course, we feel, is the crowning reward of two years of tireless work sometimes against what seemed insurmountable odds," says Mr. Farley.

Resident Courses

"Certainly, we are proud of the progress we have made in our resident courses, with two 4-months groups and one 30-day course running simultaneously; likewise, of the hundreds of men who have gone out from these courses better prepared to do a proper, safer, more profitable job for the industry.

"At best, we are only able to serve a handful of those needing and desiring this training in our resident courses. Now, with approval of our home study course by the Veterans Administration, we can serve the en-

Gas meter testing.



H. H. Asling, LP-Gas carburetion instructor, demonstrates proper method of testing carburetor installation.

tire distribution department of the LP-Gas industry."

Home Study Training Flexible

Commenting on the various methods for employing the home study training program, Mr. Farley points out that it is not only available immediately for use in established "On-The-Job" training programs, but for voluntary industry group study, or individual home study.

Members of the Institute staff have prepared an outline for what they term a "controlled" group study course which is receiving favorable attention from firms with large employe personnel which they feel should have the benefit of such a training program on a basis that amounts to conducting a training course within their own organizations. In no event, however, will the service of the individual be slighted. Each will receive the same identical service from the Institute.

This "controlled" group study course provides for sponsorship by the employing firm, consulting and supervisory service from the Institute, supplying each enrolled employe, whether veteran or otherwise, with the text material, holding regular group meetings once or twice a week, under the guidance of "key" men selected for their qualities of leadership, etc.

The Institute furnishes the text material in a sufficient number of lessons to keep the various groups progressing properly but not getting ahead of themselves. The Institute staff grades all papers as received in the same manner as those of the individual home study student and returns the graded papers and the correct answers, so, when the course is ended each trainee will have what constitutes a complete text and reference book.

The Fuel Outlook in the East

By W. W. BOYNTON*
Socony-Vacuum Oil Co.,
New York City

IN the last few days I have contacted many Eastern refiners to determine how much of the propane available in their refineries is now being extracted and sold. A summary of some typical answers would seem to give a good indication of what the LP-Gas industry is getting today.

One large company early this year completed modernization of its propane plant, and the industry can look forward to very little more from this source in 1948 than it received in 1947.

A second is taking only one-third of the propane in its sti'l gases, but doesn't contemplate at the moment an increase. A third large company anticipates completion by next year of a plant which will recover most of the available propane. One small refiner tells us that he plans commencing extraction of propane in 1948. He now recovers none.

Propane Recovery

Another large refiner indicates he is recovering only about 42% of his available propane. Another is now extracting about 40% of the available product, and is considering increasing that figure at the present time.

Several refineries extract none, selling their refinery gases direct to utility companies, thus in a sense serving the same purpose. This situation prevails, for instance, at both our Buffalo and Brooklyn refineries. We are making every possible effort at Paulsboro to increase production.

These indicated production rates, on the whole, reflect the long strides made by the industry to increase the supply of propane; and, month by month, the total Eastern production is rising. Apparently, from the figures obtained from the producers contacted, and estimating what others are doing, it seems reasonable to believe that total Eastern production available in 1948 from Eastern refineries should be somewhere in the neighborhood of 30 000,000 gallons greater than 1947.

That is a great deal of propane, but—gentlemen, that is not going to be enough to satisfy first, the existing unsatisfied demand, and second, the continuing increased demands of our Eastern market—homes, industry, commercial and utility uses. We must either import from outside areas, or we must continue to increase local production. What is our Eastern production potential, and what are the factors which will affect the amount of that potential that we receive?

First, as regards production ca-

*A paper delivered at the North Eastern district meeting, LPGA, Atlantic City, Nov. 6-7.

pacity. From reports of the companies checked in preparing this talk, it appears that, on the whole, we are receiving not over half of the available product right now in the East. Many refineries are not set up to extract propane, and, as shown a moment ago, very few are at capacity. This is understandable, since the cost of extracting the last few gallons of propane is so out of proportion to the cost of extracting the major portion of the available product. Until a larger percentage of the now unrecovered portion is available, it would appear that our efforts should be directed towards higher recovery ratios—up to the economical limit rather than worry about the theoretical limit of Eastern refinery production and where we will turn for more when that limit is reached.

Refineries Taxed

Today, as statements of many leading Eastern oil company executives have indicated, the petroleum industry faces shortages of all products. Refineries are running at higher rates than ever before. Crude production sets a new record almost every week. Consumer demand for almost all hydrocarbons continues to grow. Our whole petroleum industry is getting every drop the refinery can provide. Without additional basic refinery facilities, it is impossible today to increase propane production, except at the expense of some other product which is in short supply.

For the moment, think of yourself in the position of the refiner today. He is beset on all sides by demands for all kinds of products. Old accounts which have been on his books for years are calling him daily for more fuel oils — more lubes—more gasolines—more propane. He simply cannot physically meet all those demands immediately. What would you do?

Shortages Delay Construction

By investing a large sum of money he can undoubtedly increase total propane production—building large and complicated refrigeration, separation and compression units. But let us never lose sight of the fact that all construction programs of today are faced with delays due to shortages; also, that increased propane must be at the expense of fuel oil or gasoline, or some other product. Price adjustments have recently been made by some companies to increase fuel oil supplies at the expense of gasoline.

This illustrates the position the refiner finds himself in today. To satisfy one customer, he must divert his supply from another customer! Whether or not his profit is better on propane than on other products has a relatively minor bearing on the question under these unusual circumstances. Naturally, from the long-term point of view, profits profoundly influence his actions; and the costs of recovering additional increments of propane will determine whether he can afford additional investment in extraction facilities.

Today, the petroleum industry is doing its very best to make more *total* gallons of petroleum products available. The refiner is faced with

a strange situation. Here is a demand for propane which cannot be satisfied with present facilities, and at present prices. We believe investment in further production capacity would be profitable—but for the time being, he must direct most of his investments into production of crude and basic refining facilities to try and meet the growing demands of fuel oil, gasoline and other customers. A portion of his investment will be used for propane, of that I am sure. But the refiner cannot today increase his propane production as fast as the market is growing and still be fair to the consumer of other products.

Recovery Increasing

The record of increased production of propane over the last few years shows that recovery in the East is growing at a much faster rate, percentagewise, than that of any other basic petroleum product. It is hoped that we can continue to expect recovery to grow at this rate —or even faster; and over the next five years it seems inevitable that every Eastern refiner who is able to do so will increase his recovery to a maximum.

There remain many, many millions of gallons of propane potential, and each year more and more refiners will make the investment necessary to recover more and more of our product. I make this prediction because I am firmly convinced of this fact: As long as any customer in the East—whether marketer, consumer or industrial account—must turn to high cost sources for his propane supply, then the Eastern producer would be short sighted, indeed, if he did not make every effort to satisfy this tremendous market existing on his doorstep!

The Eastern refineries would not have grown and prospered through the years if the men running those plants had made it a practice of being short-sighted!

LPGA Will Confer Honor Upon Contributors to LP-Gas

A "Distinguished Service Life Membership" to men who contributed substantially to the liquefied petroleum gas industry, is the proposal of the LPGA. as voted into a constitutional amendment by the directors in New Orleans Dec. 8-9. (See Page 134.)

This will compare to the Hanlon Award of the Natural Gasoline Association of America for contributions to that industry.

It will be given to industry members who have made the most outstanding contributions to the LP-Gas industry and will be awarded on the basis of definite legitimate qualifications as outlined by a special committee to be appointed by President Ty Ransome.

It was recommended that not more than 5 nominees be made each year by the membership committee, the recipient of the award to be that nominee of the committee who receives the most votes from the entire membership.

It is planned that in order to give this award lasting significance, a lapel button as well as scroll will be issued.

This recommendation came from the constitutional by-laws committee of the LPGA, whose chairman is Joseph Crowden.

. . . WHY GAMBLE?

»The user who stores his own fuel (in a 1,000 gallon system) avoids paying others to store it for him. He gets a lower price and uninterupted service—a two-way bonus!

See What Happens... With a 530 Gal. Tank

SEPT. 1ST

FILL TO 450 GALS.

Remember that you can fill to only 85% of capacity.

DEC. 10TH

ADD 350 GALS.

After this filling, system has 446 gallons, but coldest weather is just beginning.

JAN. 10TH

ADD 350 GALS.

After this filling, system has 442 gallons, but continued cold weather draws heavily on fuel.

MAR. 1ST

ADD 364 GALS.

After this filling, system has 450 gallons, enough to last until September.

Now...With a 1,000 Gallon L.P. Gas System

SEPT. 1ST

FILL TO 850 GALS.

The larger system gets you half way through the winter before re-fueling is needed!

JAN. 20TH

ADD 670 GALS.

After this filling, system has 772 gallons, enough to last until September!

The 530-gallon system requires *twice* as many trips to supply the *same* amount of fuel. Seventy per cent of fuel must be delivered during winter months when roads are at their worst. With a 1,000-gallon system only 41% of the fuel is delivered during the winter and only one trip is necessary to insure un-interrupted service. For lowest fuel price, get a large system.

Building a Dealer Organization

Part 3—Tri-State Gas

By ED TITUS

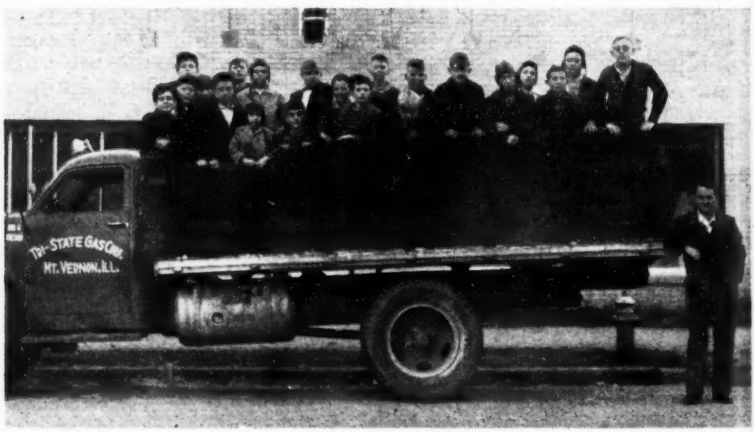
Eastern Editor, Butane-Propane News

THE former occupation of dealers who are affiliated with the Tri-State Gas organization in Illinois, Kentucky and neighboring states include:

Insurance salesman, night club operator, preacher, restaurant operator, farmer, factory worker, manufacturer, grocer, furniture dealer, real estate salesman, appliance salesman, and accountant. All the dealers except one are said to have been new to the gas business when they became associated with Tri-State.

These are the people who have helped push Tri-State and affiliates up from one bulk plant a little over a year ago to a couple of dozen in five states today.

How does Tri-State pick, train, and organize its dealers? How do they handle their truck fleet for economy? What sort of appliances



The Tri-State Gas Corp. bids for good will in Paducah by transporting a group of boys from the Paducah school patrol on a hay ride and wienie roast.

You don't know until you measure it

No matter how much of an eagle eye you have, it would be strictly a matter of luck if you guessed the length of the above piece of string. And to know how accurate was your guess you would still have to measure the string.

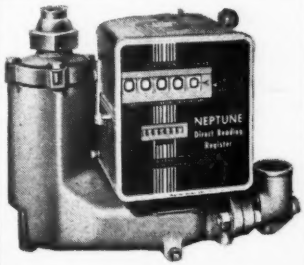
And in measuring your gallonage, too, there's one way to be sure—meter it . . . with a Neptune Red Seal Meter. And your auditing department and the tax collector will accept the figures.

Neptune Meters are precision engineered, each being composed of several, easily accessible units. Any necessary servicing can be done with ease and speed. And speaking of servicing did you know about . . .

NEPTUNE'S EXCLUSIVE MONEY-SAVING UNIT REPLACEMENT PLAN

Like any mechanical device, Neptune Meters need occasional attention. So to make your investment completely satisfactory, we have a plan that permits you to exchange worn-worn units for factory rebuilt replacements, at low cost. Adequate stocks of these parts are kept on hand at our strategically located branches and petroleum equipment jobbers' warehouses. No more expensive rebuilding or repairing in the field. Your equipment is kept in constant service. You save money, time, temper.

FOR ACCURATE MEASURING OF YOUR GALLONAGE . .



THERE'S A NEPTUNE METER to fit every one of your requirements. Special type of construction saves valuable pay-load space and weight. Optional is Print-O-Meter that provides fool-proof printed ticket showing exact quantity delivered.

NEPTUNE RED SEAL METERS

NEPTUNE METER COMPANY, 50 West 50th Street, New York 20, N. Y. *Branch offices in:* **Atlanta • Boston • Chicago • Dallas • Denver • Kansas City, Mo. • Los Angeles • Louisville • Philadelphia • Portland, Ore. • San Francisco • NEPTUNE METERS, LTD., Long Branch, Ont., Canada**

Ed Titus, Eastern editor of BUTANE-PROPANE *News* **(left, above) was the first passenger to ride a Chicago bound plane of the Chicago and Southern Airlines upon the inauguration of direct service from Paducah, Ky., to Chicago. Mr. Titus was in Paducah to get the accompanying story upon the operations of the Tri-State Gas Corp. The personable young lady with the big scissors about to cut the tape, is Miss "McCracken County," in which Paducah is located.**

do they handle? What kind and size of tanks do they favor? What methods of payment? What kind of financing for dealers? Do they or don't they favor specialties?

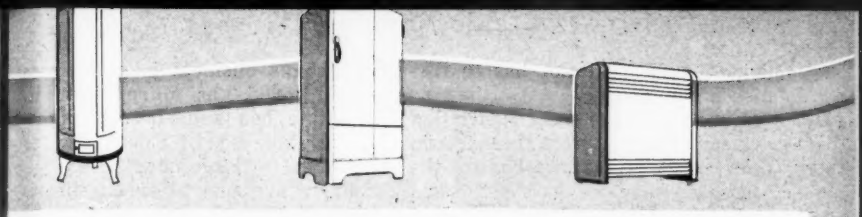
These are some of the questions we'll answer in this third and final article, telling how a group of small city people, without big city or big company backing, have spread their L P - G a s organization into five states.

First, the matter of trucks:

Tri-State is rather proud of the efficiency of its operation from a trucking point of view. Of course, every driver is a qualified gas man, capable of rendering assistance in servicing or installing equipment.

"We have no truck drivers as such—all are gas men—and it is just like a salesman driving an automobile," is the way they put it.

Tri-State executives are critical of any system under which the central organization sends a t r u c k



f every LP Gas System

SPECIFY REGO* LOW PRESSURE REGULATORS FOR LONG TROUBLE-FREE PERFORMANCE THAT KEEPS CUSTOMERS SATISFIED

Whether the housewife lights a single burner on her cooking range, or whether she has several appliances going full blast, she expects instant and dependable service from the LP Gas system supplying her home.

Chances are that she doesn't even know that a low pressure regulator is required, but she does know that she has the right to expect dependable, uninterrupted gas flow at all times.

In their roll as "the heart of every LP Gas system," RegO low pressure regulators are designed to provide infallible performance that assures customer satisfaction and eliminates profit-eating service calls.

Visual evidence of the features of RegO design and construction is given in the cut-a-way illustration on the opposite page—study it a few moments and you too will see why it is wise *to specify RegO!*

REGO
LP GAS EQUIPMENT

Stocked by
Those Exclusive Distributors
GAS EQUIPMENT CO.
Dallas, Texas
GAS EQUIPMENT SUPPLY CO.
Atlanta, Ga.
WESTERN GAS EQUIPMENT CO.
Monterey Park, Calif.
A. C. FINK, S. A., *Mexico, D. F.*
EMPIRE BRASS MFG. CO., LTD.
London, Canada

The BASTIAN-BLESSING Company
4201 W. Peterson Ave., Chicago 30, Illinois

Reg. U. S. Pat. Off.

REGO LP GAS

CISION EQUIPMENT FOR USING AND CONTROLLING LP GASES

driver, and the dealer has to furnish a gas man.

None of the central organization drivers makes a regular run, and each catches the mistakes of the others as they rotate. At the end of trips, which last from one day to a week, they turn in reports, covering all expenditures, mileage, gas used and recommendations for repairs. A log is kept on each truck.

Ernest Murphy, general manager, reports at this writing that the truck fleet of Tri-State and its dealers number 53. These include the following:

1000 gallon propane-capacity tank trucks	5
1½ ton flat bed trucks	10
¾ to 1 ton stake trucks	10
½ ton trucks, primarily for bottle delivery	27
Powered winch truck, a custom-built 1½ ton Ford	1
	53

In addition, the organization has several U-shaped, custom-built trailers, each capable of carrying any tank up to 1000 gallons. The trailers have saddles for the tank part of the chassis. A trailer containing a tank is backed up over the bases that have been poured, and the tank is lowered over the bases with the winch.

The majority of the trucks are Fords, with a sprinkling of Studebakers, Dodges and a Reo. The Tri-State people have concluded that their present truck capacities are more advantageous than larger sizes for their local delivery, with much travel necessary over gravel roads.

"Realizing that the transport end of the gas business is a business within itself," as Murph puts it, Tri-State has a deal with Lightning Butane Co., of Salem, Ill., for movement in large quantities.

There are several arrangements with dealers about ownership or use of the trucks. The 5 tank trucks and others are owned by the central organization. A dealer pays 20 cents a mile for use of a truck (other than a tank truck) and driver of the central organization.

The 1½-ton trucks are used to haul appliances and equipment to the dealer, and to pick up equipment from the manufacturers. The ¾-to-1-ton trucks serve for hauling appliances to the dealers and for installation purposes.

Trucks are based mostly in the central locations of Mt. Vernon and Paducah. Ford garages in these two communities are used for storage, repairs, and service. The 5 tank trucks and a few others use propane for fuel, the rest gasoline.

Deliveries Centrally Organized

All of the central organization's 1000 gallon tank trucks are based in Mt. Vernon, and circulate among the dealers on a carefully worked out system. They make whatever deliveries are necessary in each territory, and then leave the dealer's plant with a full load en route to the next dealer plant.

The Tri-State people point out that this arrangement means that their dealers do not have to stand for an investment in their own tank trucks. And one does not see the uneconomic arrangement of one tank truck for each bulk plant, that

truck standing idle much of the time. Tri - State men believe they have worked out a good system for as great as possible utilization of the trucks.

When a tank truck driver leaves the Mt. Vernon office, he takes with him the index cards of every customer in the territory he is scheduled to cover. Each card shows the date of the last fuel delivery for the customer, and the estimated date at which the customer will need the next delivery.

Drivers Use Discretion

Even though the local dealer does not deem it necessary to make a delivery to certain customers in his territory, the operator in charge of a truck is permitted to use his own discretion, and to make whatever deliveries he believes are needed for uninterrupted fuel supply to each consumer. At the time of each delivery, he enters the proper information on the card for the next fuel delivery.

The following is a typical week's work by one of the drivers:

Robert Hutchasion left Mt. Vernon with a full load on Monday, travelled to McLeansboro, making deliveries from his tank at 4 or 5 stops en route. Working out of McLeansboro, he picked up and delivered 2 loads in that area, to a dozen or so customers. Leaving McLeansboro, his truck again fully loaded, he delivered the load at various points along the route to Marion, Ky. Leaving Marion with a tank load, he arrived at Hopkinsville, with the tank empty. From Hopkinsville, he proceeded to Paducah, delivering en route. He delivered two loads in the Paducah territory, and proceeded to base at Mt. Vernon, again delivering en route. The gas-man-driver arrived at Mt. Vernon Thursday night, after 4 days, in time for school. For Friday and a half day Saturday he made deliveries in and around Mt. Vernon. Over the weekend, the trucks are inspected, serviced and loaded, so as to be ready for the drivers promptly Monday morning.

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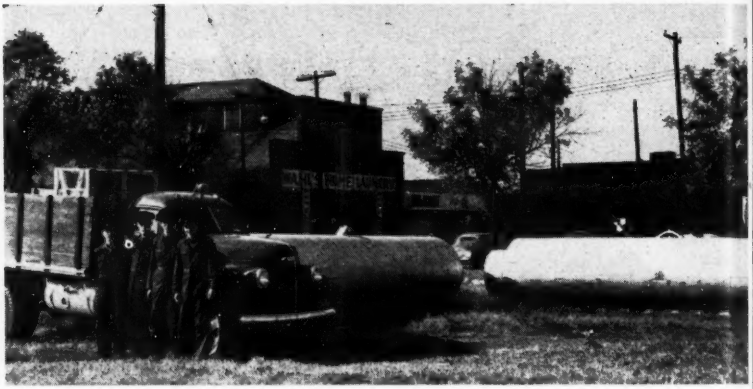
In the debate on methods of payment, Murph of Tri-State lines up on the side of those who favor a bulk payment system rather than metering. An exception is apartment house installations, in which instance Tri - State makes use of meters. A separate meter can be provided for each apartment.

Murph's reasons for favoring payment for what a customer buys at the time he buys it are largely along the line of desirability of getting payments in advance, and savings in costs of reading, billing, inspection and maintenance. Those on the other side of the debate will give an equally long list of reasons why it pays to use meters.

Trend to Larger Storage

While a large number of bottle customers are served at present with 100 pound cylinders, Murph makes this statement:

"There should be a trend to larger containers in the very near future. This will permit a lower operating cost, and in turn decrease the cost to the consumer. In view of this belief, our company has elected to make available in all dealer terri-



The Tri-State Gas Corp. uses butane in many of its trucks. The one in the above picture has 43-gal. storage tanks on each side of the truck. Those in the picture are (left to right): Gene Grace, J. A. Murphy, Homer Arnold, and H. M. Hogue.

tories 115 gallon 'Pacific' tanks for an installation." A rental cost of 25 cents per month for the tenure of the fuel agreement is made.

With these tanks Tri-State reduces the selling price of the fuel below the price by the cylinder. The plan permits a year's fuel supply to be delivered to a range customer in the not-so-busy summer months. On this the dealer gets a credit or rebate of approximately 2 cents a pound.

All fuel deliveries to these tanks are by bulk trucks operating out of the Mt. Vernon office. The dealer has no expense in connection with the plan except minor maintenance and a standby adjustment service.

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Among the appliances and systems installed by Tri-State for heating are:

Forced air central heating plants, with a winter conditioner and blower for summer use; conversion burners; floor furnaces; radiant type circulators; unit heaters for commercial establishments such as garages, where they may need two or three; forced air console heaters.

"Sizing up a heat job," says Murph, "is similar to fitting a customer with a suit of clothes. The suit might fit, but it still might not be the right color. No two people require the same amount of heat to be comfortable."

Dealers are allowed to make direct contact for purchase of approved equipment. Many of them were said to have elected to handle additional lines like Magic Chef ranges.

Tri-State aims to keep a complete record and file on all manufacturers' appliances and equipment which they use or handle.

"The men," says Murphy, "must know more about an appliance than the guy who makes it."

Tri-State is trying to steer clear of the more complicated specialties, until their dealers have built up a longer backlog of experience. The majority of present installations are space heating, water heating, cooking and commercial. Commercial installations are mostly simple ones for baking, dry cleaning, heat treating, soft drink bottling plants and the like. Still they do have a few specialized installations now, and doubtless will have more later.

Actually, according to Tri-State, the margin of profit is lower in specialty work. And often when a dealer has overruled the organization's better judgment and gone into it, they say he has regretted his error and has returned to more routine operation.

The specialties Tri-State tries to have its dealers avoid stocking for the present include most industrial operations, partly because of close competition of the major suppliers in this type of thing.

Tri-State executives, however, are fully conscious of certain potential specialty and industrial operations in their area which may be advantageous to go after later.

Flame weeding is one. It's all right for a dealer who knows both gas and agriculture, but the ordinary dealer should keep away from it, Tri-State thinks. Among industrial specialties that Tri-State does have (while not wanting to say much about them yet) are radiator repair work, body work on automobiles, steam cleaning, paint burning, some internal combustion engines for sawmills, foundries, rock quarries, and power systems

Tri-State Gas Corp. Daily Report of Operations

Date:

Cylinders:

Fulls:

Beginning Inventory	Filled During Day	Outgoing	On Hand End of Day	Damaged On Hand	Comments

Empties:

Beginning Inventory	Incoming	Filled During Day	On Hand End of Day	Comments

Bulk Fuel:

Beginning Inventory	Incoming Fuel	Dispensed To Trucks	Other Disposals	Ending Inventory	Actual Reading	Variation

Truck Mileage and Expense:

	No. 1	No. 2	No. 3	No. 4	No. 5
Miles:					
Expense:					

on oil wells. One sawmill converted from coal and sawdust to propane.

There are a lot of cotton gins in Tri-State's territory. At present the company and its dealers don't serve them, but expect to eventually.

Tri-State prefers the small consumer. One advantage is they thus avoid risk of loss of substantial business of a few large industrial users.

Illustrating the kind of heating business that can be sold is the motor court being built by Raymond Freeman and Raleigh Rothwell, near their gas station on Route 60, two miles south of Paducah.

These two young men are building a 20-room motor court at a cost of about $2000 per unit. Skilled craftsmen themselves, they are doing all the work except the plumbing, using cinder block and rock veneer construction. Each room will accommodate 2 to 4 people, and the entire set-up about 50.

They commissioned Tri-State to install a 1000 gallon propane tank. This supplies fuel to a Clow "Gasteam" radiator in each room.

Tri-State's largest commercial installation, they stated, is a 7000 gallon tank in a packing house, Wright Packing Co., of Chandler, Indiana. LP-Gas is used to fire the boilers for meat processing and heating the building.

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Most of the dealers affiliated with Tri-State were picked by the 11 experienced men who were the nucleus of the organization. These men surveyed the territory, selected towns they thought would deliver profits, then chose the right people. These dealers are now learning the gas business, point by point, in Tri-State's 4-year training program.

The story of Tri-State's relationships with its dealers is told in the bill of sale and operating agreement the central organization signs with each.

Dealer Agreements

The usual agreement begins with a description of what has been sold to the dealer by the company (as the central organization is designated in the agreement). The dealer agrees to buy his entire requirements of liquefied petroleum fuel from the company. He agrees to make all installations of gas-fired equipment, devices and utilization equipment in accordance with codes and approved specifications of the recognized associations and groups.

As a safeguard against dealers engaging in operations too fancy for their experience, the dealer agrees that "he will obtain the written permission of the company before undertaking the installation of heating equipment or other jobs requiring extensive knowledge and experience."

The dealer agrees to purchase his requirements of appliances from the company when they can be furnished by the company.

It is agreed that title to all utilization equipment shall remain in the company. The equipment is to be leased to the consumer with subsequent return of all leases to the company. Utilization equipment to

You should have this List of LUKENS STOCK HEADS

LUKENS FLANGED AND DISHED HEADS—both Standard and ASME—on hand, ready to ship! This List shows the sizes and gages of carbon steel heads regularly stocked and ready for immediate shipment.

Most of these heads can be duplicated, on special order, in other commercial metals, including clad steels.

Lukens has hundreds of dies with which all standard type heads can be formed and, thus, is often able to supply heads not in stock within a short time after receipt of your order.

For your copy of Lukens Standard Head Stock List, "Heads in a Hurry!", write Lukens Steel Company, 422 Lukens Building, Coatesville, Penna.

LUKENS HEADS

FOUR INCHES TO OVER EIGHTEEN FEET IN DIAMETER

be obtained from the company comprises only cylinders, hoods and stands, tanks, regulators, pigtails, manifold blocks, and all other items necessary to effect or perfect a gas installation. (Some tanks, of course, are sold to consumers, as explained above.)

The manner in which Tri-State gradually eases its dealers into broader operations, as their experience increases, is illustrated by the following clause about heating installations:

"Upon the dealer-distributor" (this is what the dealers are called) "qualifying his personnel in such manner as to insure that heating installations will be installed according to all then effective safety regulations, and upon receiving a safety clearance from the company, then dealer-distributor may engage in the sale, installation and service of gas-fired heating equipment, subject to all the terms of this contract."

Sub-dealership Cylinders

The agreement defines the dealer's territory, in which he can carry on his own retail operations, and establish sub-dealers. Each dealer is allowed to establish only 5 sub-dealers, and a limitation is placed on the distance of sub-dealers from the dealer's plant. Dealer agrees to collect from the sub-dealer and pay over to the company demurrage on cylinders which have been inactive for a period of 6 months or more. The sub-dealer calls at the dealer's plant for refilling of his bottles. The company agrees to furnish printed forms suitable for controlling cylinder and fuel movement, at cost of printing. The dealer agrees to furnish the company with a copy of all these cylinder and fuel movement reports. These reports are kept on a daily basis.

Widespread Organization

Tri-State Gas Corp. fans out in every direction from Mt. Vernon, Ill., and Paducah, Ky. The states in which central organization or dealer bulk plants are located are Illinois, Indiana, Kentucky, Missouri, and Florida. The central organization has three airplanes, and two of the dealers have their own.

Heading Tri-State are Paul Miller, a milk distributor and business man of Metropolis, Ill.; R. E. Thorpe, Daytona Beach, Fla.; and Dr. A. W. Modert, a surgeon who was an original backer of the enterprise. Ernest Murphy is general manager.

The central office people circulate among the dealers by plane and automobile, giving what assistance they can.

One dealer was having difficulty getting started in a Kentucky territory where electric equipment had made heavy inroads, before LP-Gas was available. He sent out an SOS. A man from the central organization went down there, and in 9 days got him going in good shape.

In White Hall, Ill., on the other hand, psychology inclined more to gas at the start. Two truckloads, totaling 30 gas ranges, came in. They were gone from the dealer's establishment by the evening of the next day. The 2 electric ranges which had arrived at the same time were still on the floor 2½ months

later. And the dealer had confirmed orders for 30 more gas ranges awaiting delivery. A dealer in Sesser, Ill., sold and installed more than 2000 gas ranges in 12 months, it was stated by Tri-State.

The fact that each central organization and dealer bulk plant has bottling facilities makes for speedy cylinder deliveries. Tri-State asserts that this permits dealers and sub-dealers to obtain refills for their customers at a margin below competition, due to lower cost of transportation. It means that no one has to travel more than 25 miles each way to a bottling plant.

The services of a commercial credit house are used for various kinds of financing in the Tri-State set-up. Keith Lipe, in charge of operations at the Mt. Vernon office, has a background of such experience. The dealers can obtain financing of retail paper for up to three year. Through finance companies, also, Tri-State can floor-plan appliances and equipment dealers purchase. The dealer puts up 10%. Ninety per cent is advanced at 3% per annum.

To set a dealer up in business Tri-State can sell him a plant for $5000, including tank, pumps, bottling manifold and scales. Price does not include installation, which will be handled by the central organization for $500, more or less, if the dealer desires.

For the plant, the dealer makes a down payment of $2500, paying the balance over 3 years. Estimating $500 as added expense, Tri-State says it can launch a dealer in business for $3090 cash.

Small Gas Plants Open Field for Industrial Users

Predictions of a sharply accelerated use of LP-Gas by industrial plants throughout the country, plus new, broadened marketing opportunities for LP-Gas bulk plant operators, were made recently by Harry W. Townsend, vice president, Pacific Gas Corp., specialists in liquefied petroleum gas marketing, engineering and utilization.

Industrial plants using gas in small quantities up to 500 cfh will soon be able to install low-priced LP-Gas-fueled standby equipment, with fuel supplies maintained by truck deliveries, Mr. Townsend declared.

"A newly designed packaged gas plant created for small-consumption industrial plants will enable small industry to put itself on an equal footing with the big industries which now enjoy gas standby equipment as protection against gas shortages," Mr. Townsend said.

The new, small-size unit consists of a spherical container holding approximately 4300 gals. of LP-Gas and a compact mixing and vaporizing unit about the size of an ordinary office filing cabinet. Manufacture of the gas-air machine is already under way.

This new development should make possible the widest acceptance of LP-Gas, especially among those industrial plants where an uninterrupted supply of gas is vital. Such plants would include greenhouses, printers, chemical plants, tool shops, and all heat-treating processes.

"Any plant using up to 500 cfh gas can assure itself of 10 eight-hour working days of uninterrupted production through the use of this new PGC gas-air machine and a spherical tankful of propane or butane," Mr. Townsend concluded.

Sell The Woman To Sell the Deal

By S. W. Ellis

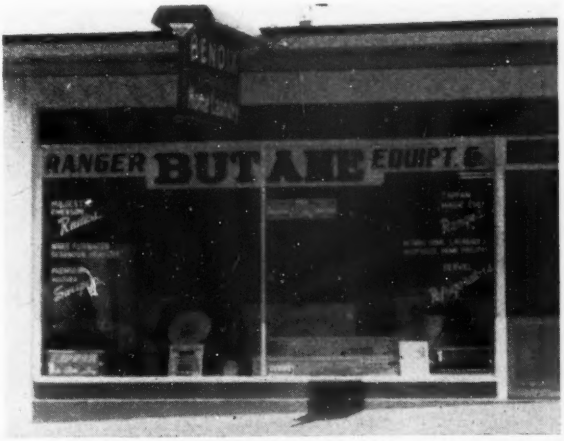
WHEN the initial butane system and appliance sale is made to the customer of the Ranger Butane Appliance Co., Eufaula, Okla., the owner, Elbert Turley, is pretty sure that he has a $1000-customer booked — provided he sells the women of the family.

That initial sale of $500, including the system and nearly always, in that territory, the heaters, will expand into $1000 for a completely equipped home because Mr. Turley and his assistants know that the women make the household decisions, even though the men pay the bills.

The wife and daughters of the family come into the store and pick out the appliances, and the daughters are often the ones who influence the ultimate purchases. Many of them even help to pay for the appliances. When Mr. Turley calls at a home to sell a butane system and appliances, he always urges the daughters to come into the store for a demonstration of all the appliances they will eventually want.

The average farmer usually wants to see the appliance himself, and he carefully weighs every feature before he closes the deal. But his judgement has been influenced by the women of the family.

Most sales are initiated when the direct call is made at the farmer's home. Mr. Turley spends much of his time in making these calls, and is seldom found in the attractive store located in the business section of his prosperous city of 3000 residents. Fifty per cent of the customers start



▲

Neat window signs attract favorable attention for the Ranger Butane Equipment Co.

▼

with butane systems and two heaters. After the heaters, comes the range, then the refrigerator and water heater.

When the heaters are the first appliances bought, larger and better models are usually purchased. Mr. Turley always recommends the correct size of heater to give the best service.

Heaters are often installed in rooms that have not been heated formerly. When the right size and type are installed, two heaters usually heat the entire house, and thus convince the family of the utility of bottled gas and modern appliances.

W. T. Springer, store salesman, states that farmers buy their butane system and appliances more cautiously than do suburbanites who make their living in town, but that the farmer is willing to buy the moment he is convinced that bottled gas and the appliances used with it will save him money and labor and add to the comfort of the home.

A farmer prospect asks more questions than the city prospect. He is more interested in construction details of the appliance and in the service he can get when repairs are needed.

When an appliance is demonstrated to a farmer, the salesman must be prepared to talk in detail and to answer many questions.

All salesmen employed by the Ranger Butane Appliance Co. are equipped to give the farmer full information. The truck drivers who deliver gas are valuable additions to the sales force. Making regular contacts with the customers, they pick up many leads for new sales. Those leads are closely followed by personal calls by Mr. Turley.

The physical appearance of the store is attractive and modern, bright and clean, both outside and inside. Signs are used extensively in the windows to let customers know that a variety of bottled gas appliances can be had there. And variety helps to turn that initial $500 customer into a $1000 one.

Daughters of purchasing families select the appliances.

Testing Cylinders in LP-Gas Service

By J. L. GRAHAM*

Pressed Steel Tank Co., Milwaukee

(According to ICC Specifications)

Reasons for Importance

(1) Compliance with ICC regulations.

(2) Retention and promotion of public confidence in the industry by reducing the hazards to life and property of the public.

Requirements for Cylinders

1. General

a. Any container used more than once and reshipped must be in such condition that it will protect its contents as efficiently as a new container.

b. Containers that show bad dents or other evidence of rough usage, or local corrosion to such an extent as to indicate possible weakness, may not be charged or reshipped without submission to a prescribed form of test.

2. Specific Test Requirements

a. A hydrostatic test of twice the designed working pressure at least once every 5 years after the first 10 years of service to determine their suitability for further use.

(1) The expansion of the cylinder while the test pressure is applied—total expansion.

(2) The permanent increase in volume which may take place and which persists after the testing pressure has been released — permanent expansion.

b. Permanent expansion cannot be greater than 10% of the total expansion.

Recent Code Revisions

1. If the complete expansion test is used, the cylinders need only be retested at 10-year intervals provided that they pass visual inspection at each filling.

2. If the "modified hydrostatic test," (consisting of subjection of cylinders to hydrostatic pressure twice the designed pressure and carefully examining it for leaks or other signs of damage or deterioration, but without the necessity of determination of expansion), is used, the cylinders must be retested every five years after expiration of the first 10-year period.

Considering the fact that the testing procedure may only be required once in 10 years if the complete expansion test is performed as compared to once in 5 years for the alternate method of testing, a careful analysis from a cost standpoint may

Many papers of unusual import to the LP-Gas industry were presented at the 1947 University of Tulsa Short Course. Sufficient space is not available to print these in full, but in this and succeeding issues will appear abstracts of many of them.—Editor.

* Condensed from a paper presented at the University of Tulsa LP-Gas Appliances short course, Sept. 3-5.

well justify the expense of the additional equipment and somewhat increased time required for the complete expansion test. Much of the labor associated with testing is involved in the removal and insertion of cylinder valves. Where the quantity of cylinders involved warrants the investment, a machine can be built to rapidly accomplish this work.

The machine consists of a structural steel frame in which a toggle clamp is mounted for securely holding the cylinder. A reversible air motor is mounted directly above the cylinder and is equipped with a series of jaws or wrench elements to accommodate the various types of valves involved.

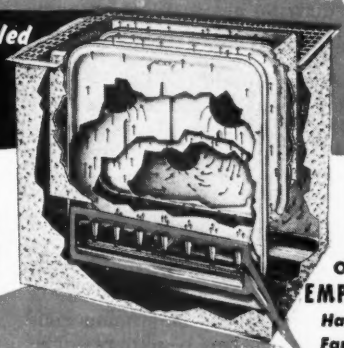
Production and distribution of liquefied petroleum gases from natural gasoline and cycle plants in the United States in thousands of gallons.

	September 1947			*Jan.-Sept.*	
	Natural Gasoline Plants	Cycle Plants	Total	1947	1946
PRODUCTION:					
Liquefied petroleum gases:					
Commercial butane-propane mixture	29.000	9,080	38,080	338.987	289,398
Normal butane	27,976	7,651	35,627	316,650	247,590
Propane	35,168	10,460	45.628	379.988	223.787
Other mixture (LP-Gas)	11,821	1,475	13,296	118,129	82,653
Iso-butane	11,841	4,020	15,861	160,837	120,353
SHIPMENTS TO REFINERIES:					
Normal butane	6,184	4,013	10,197	71,609	72,625
Iso-butane	11,880	3,768	15,648	146,503	102.064
Other LP-Gas	4,926	2,914	7,840	48,909	93,389
LP-GAS FOR FUEL	81,185	14,959	*96,144	875,581	580,712
LP-GAS FOR CHEMICAL	12,011	7,908	19,919	174,772	155,835
STOCKS AT REFINERIES, PLANTS AND TERMINALS—END OF MONTH:					
Liquefied petroleum gases	15,674	2,512	26,124	26,124	43,132
LIQUEFIED REFINERY GASES PRODUCED FOR FUEL & CHEMICAL PURPOSES	....	....	60,270	564,984	496,020

* Includes 1,223,000 gallons exported.

A LEADER in all 48 States

- it's PERFORMANCE is Unexcelled
- it's ENGINEERED Not Adapted—for THE Available Gas Supply



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Engineered for the available gas supply—not adapted—and for dependability and economy (and this is important to home owners in these days of high fuel prices), the EMPIRE Gas Floor Furnace is a dominating sales builder. Whips competition for performance. Equipped with the famous "THRIFTMATIC" Gas Burner, developed by EMPIRE, this Unit scores a new efficiency in trouble-free, automatic gas heating.

Be FIRST in sales with EMPIRE—the line that is FIRST in consumer acceptance. Sales records from all 48 states prove this statement.

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EMPIRE Gas CIRCULATOR HEATER

EMPIRE Gas RANGE

EMPIRE STOVE CO., BELLEVILLE, ILL.

MANUFACTURERS OF GAS HEATING AND COOKING APPLIANCES

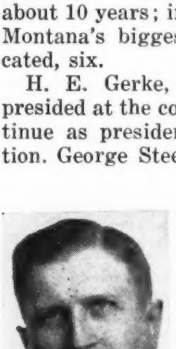
Montanans Play Host To "International Convention"

By Avon Wilson

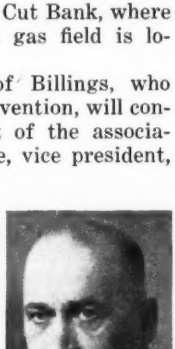
MONTANA and North Dakota distributors scarcely outnumbered Canadian newcomers in the field at the second annual convention of the Montana Liquefied Petroleum Gas Association at Cut Bank Nov. 17. Snow was on the ground and a cold wind stirred, but the convention warmed up fast.

Twenty representatives of Alberta distributors who had gone into the business during the past year and a half had hundreds of questions to ask Montanans about a field in which even Montanans considered themselves beginners. The industry has been in the state only about 10 years; in Cut Bank, where Montana's biggest gas field is located, six.

H. E. Gerke, of Billings, who presided at the convention, will continue as president of the association. George Steele, vice president, and D. O. Mecklenburg, secretary, also of Billings, were re-elected. New directors are Tom C. Bird, of Missoula, and Stan Pulliam, of Cut Bank.



H. E. Gerke



D. O. Mecklenburg

The delegates, about 50 including out of state dealers and representatives of allied industries, registered at the Glacier hotel and by 10:30 a.m. were assembled at the woman's club house a block away. Here shop talk went on at a vigorous clip until 3 p.m. with an hour and a half out for lunch.

Safety in handling propane and butane gases and the results in lowering insurance rates were of primary interest. John Knox Smith, LPGA safety engineer, Chicago, opened a sober discussion about accurate information for insurance companies and increased attention to safety techniques. Lloyd's of London, said Mr. Smith, have their rates up high because they don't know the facts. He described losses in the industry as "infinitesimal compared with the two billion gallons of propane and butane which will be sold this year."

The industry is working with American companies for lower insurance rates. S. J. Connolly, Union

Oil Co., Great Falls, said he believed he had interested two West Coast insurance companies in making their own inspections and writing their policies accordingly. He hoped to have good news for Montana distributors in a few months.

Consideration for Safety

Mr. Smith concluded his part of the program with a plea for a more thorough consideration of safety—use of bleeder valves, piping on tank trucks, more effective checks on installed heating systems. He brought along a monometer and said every dealer ought to have one to make sure there are no leaks after a heating unit is all hooked up.

Mr. Smith said an effort was being made to lower tank car freight rates by 29%. Interstate Commerce Commission hearings have been held, and it is understood that some areas will get a 21% reduction. Secretary Mecklenburg wanted to know if anything was being done about the Rocky Mountain district and was assured that the effort was being conducted in terms of the 48 states.

The Chicago speaker rambles the country over in his efforts to solve liquefied gas problems, and before he could get off the floor someone brought up the problem of freeze-ups caused by water in tanks. Consensus of opinion was this was largely caused by water clinging to the entire inside surface of the tank, and rolling the tank with an alcohol bath was recommended as a solution.

To Secretary Mecklenburg it was a warm subject: "I've talked about this at every meeting. If you get dry tanks from the manufacturer, you won't have this trouble."

When L. C. Blackburn of Alberta Gas Services, Calgary, got up to talk, the convention went international. He said his company had been in business a little over a year and was now serving "seven or eight" packing companies and contracting bulk installations. They were handling propane from Cut Bank, Casper, Wyo., and Texas.

Like the rest of his countrymen, he wanted to find out how to assure heating unit efficiency in sub-zero weather. In Alberta, as in Montana, a warm chinook wind can break up a severe freeze and melt off the snow in a few hours. He asked whether Montanans were burying their tanks or installing them aboveground.

An argument followed which ran into the afternoon session. Montanans were having success with both procedures, blamed troubles on technical oversights. All were agreed that in cold weather big tanks work better.

Half Million Since May

P. N. Smith, of Rural Gas & Appliances Ltd., Calgary, said he hoped Montanans would soon be meeting with Canadians in Alberta. His company started in May and now has four 30,000 gallon tanks. It has sold half a million dollars worth of merchandise and expects to equal that volume in the next two months.

The Alberta speaker told of one Edmonton dealer who installed 94 heating units in two months and

had an all winter schedule of two installations a day.

In Canada, as in Montana, distributors are making their money on sale of equipment and installations and making little, if anything, on the fuel, the industry being in that stage of development.

In the late afternoon business session, Montanans settled down to complete the organization of their association. They were still without a constitution and by-laws. These, patterned after those of the Florida association, were completed and adopted Nov. 17.

The conferees resolved to allow membership in four classifications:

Class A—Those who own and operate bulk plants of 15,000 gallon capacity and do a substantial part of their business in Montana. About 35 such members are listed.

Class B — Employes of Class A members.

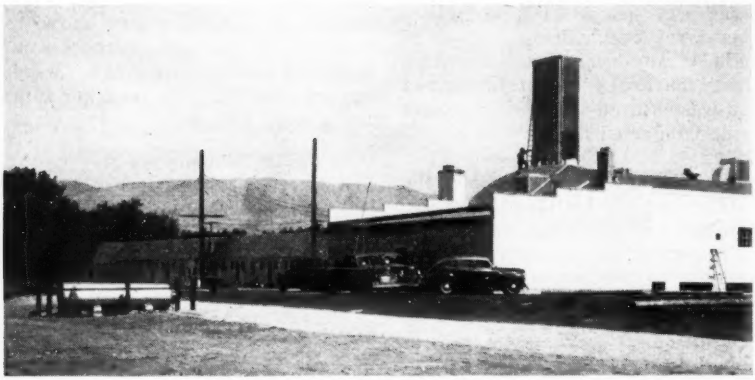
Class C — Business concerns allied with the liquefied petroleum gas industry.

Class D — Honorary.

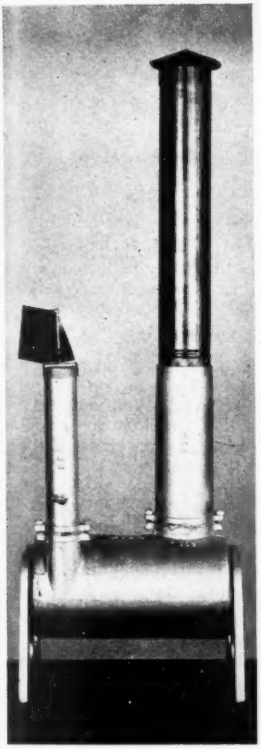
The convention ended with a banquet. Speakers there included W. C. Hegler, Phillips Petroleum Co., Denver, and Dr. J. J. Kirby, Great Falls, a director of the national Liquefied Petroleum Gas Association.

Dr. Egloff Given Office

Dr. Gustav Egloff has recently been reelected chairman of the Petroleum Division of the American Chemical Society, and vice-president of the society. Dr. W. E. Kuhn of The Texas Co. was elected vice chairman.



The Liquefied Gas Corp., Boise, Idaho, has installed these "Red Head" American Pipe & Steel Corp. tanks for Albertson's food store in Boise. The tanks furnish gas for a bake oven, a 45-gal. Servel water heater, a commercial range and a 2-burner plate and chicken singer. According to H. H. Morton, manager of the LP-Gas company, the installation has given wonderful service and he hopes to convert the rest of the food stores to gas.



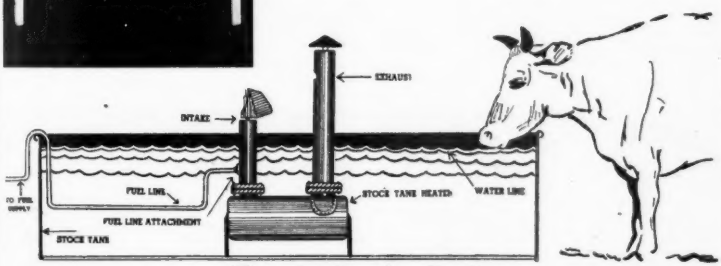
Keeps Stock Water Free From Ice

The "IRON MAN" heater has been expertly engineered. Ninety per cent (90%) of the heating value of the gas is put into the water, and this means low operating cost to the user. Operates approximately ten (10) hours on one (1) gallon of PROPANE or BUTANE GAS.

FEATURES

No Moving Parts • 90% Efficient
No Oil Film on Water • Long Life
Minimum Maintenance
Low Operating Cost

Dealerships and Distribution Territories Open • Liberal Discounts



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ASSOCIATIONS

NBPA Directors Lay Plans For 1948 Chicago Convention

The National Butane-Propane Association board of directors met at the Congress hotel, Chicago, on Dec. 13 to approve standing committees appointed by President John M. Robinson, and to lay preliminary plans for the 1948 annual convention which will be held in the same hotel next September.

Among other subjects considered at the board meeting, according to Elwin E. Hadlick, executive vice president, were refilling of board vacancies; cooperation with state and regional associations; equality of distribution; products liability insurance; group health, accident and other insurance; tax equality; prospective legislation and district meetings.

The next meeting of the board of directors will be held at the Jefferson hotel in St. Louis on March 24.

The names of chairmen of standing committees are as follows: R. N. Short, Red Devil Butane Gas Co., Franklin, Ky., auditing; Stan Beske, Kay Gases Co., Chicago, convention; J. H. Winton, Winton Automatic Gas Co., Beaumont, Texas, forms; John L. Locke, Northwestern Blaugas Co., membership; R. J. Coughlin, Westland Oil Co., Minot, N. D., safe practices.

NGAA

Frank M. Perry, Cities Service Oil Co., Bartlesville, Okla., is to head the convention program committee for the 27th annual convention of the Natural Gasoline Association of America, according to a recent announcement by NGAA President C. R. Williams, The Chicago Corporation, Corpus Christi. The convention is scheduled for March 24-26 at the Texas Hotel, Ft. Worth.

Other members of the committee appointed by Williams are: Henry M. Brown, Midland Gasoline Co., Houston; J. H. Dunn, The Shamrock Oil and Gas Corp., Amarillo; T. R. Goebel, Shell Oil Co., Inc., Houston; J. A.

JOHN M. ROBINSON

E. E. HADLICK

STAN BESKE

J. H. WINTON

Taken at the fall meeting of the Georgia LP-Gas Association, these men are (left to right): Sid Stapleton, secretary-treasurer; Victor Mavity, technical and standards committee, LPGA; Fred Rives, president; Vance Law, program chairman; W. J. Montgomery, Beals Creative Advertising Co., and Arthur Kreutzer, counsel for the LPGA.

LaFortune, Warren Petroleum Corp., Tulsa; John F. Lynch, LaGloria Corp., Corpus Christi; Albert H. Weil, United Gas Pipe Line Co., Shreveport.

In commenting on the convention, Mr. Williams pointed out that it was being held at an earlier date than ever before to avoid conflicts with other oil meetings. "Because of this fact, however," he said, "the committee has had to begin its preparation considerably in advance of the usual time but its plans are already well along and the theme of the sessions will be better utilization and conservation of hydrocarbons.

"This means prepared discussions of ways to avoid losses of the volatile products manufactured at natural gasoline and cycling plants after they leave the plant. Studies are already being made of transportation losses and the losses at filling stations as well as the waste from automobile tanks and fuel systems.

"Reports of these studies will show that most of these losses can be eliminated, thus adding considerable volume to the motor fuel supply."

Colorado

A board of directors meeting of the Colorado LP-Gas Association was held Dec. 1 in Denver. President Roy L. Weinman received word that three directors, G. B. Gillinger, Glenwood Springs; John Powers, Grand Junction; and Elton Teason, Colorado Springs, would not be able to attend the meeting because of illness.

An outstanding feature of the meeting was the appointment of A. F. Reeves, Jr., president, Colorado Rural Gas Co., Greeley, as chairman of the safety committee by President Weinman. Mr. Reeves' first course of action in this new capacity will be to visit the office of John E. Cronin, State Inspector of Oils, to further the mutual cooperation of that office and the association.

The following safety suggestions were put forth by the directors to every member of the association:

Refuse to put gas in faulty equipment or in equipment improperly installed.

Cooperate with the State Oil Inspector in every way, emphasizing the correcting of any bad installation in the time given on the no-

tice and notifying the inspector at once in writing when the corrections have been made according to the notice; also, follow the suggestions on the notice and check all appliances while correcting the irregularities specified.

Make SAFETY the watchword of every act of the personnel of your company.

Arrangements are being made for additional district meetings, following the organizational meeting of the Northeast section, in the counties of Weld, the eastern half of which is in the Northeast district, Larimer and Boulder. Also, in Lincoln, Kit Carson, and Cheyenne Wells counties. The county seat of each county will be the permanent meeting place.

Officers elected for Northeast are Joe Alberta, Alberta Oil & Gas Co., Ft. Morgan, president, and L. X. Werlet, Butane-Propane Service, Holyoke, secretary. The other districts will also have two officers each when they are formed.

New Jersey Dealers Prepare to Form State Association

TWENTY-SEVEN men who are in the liquefied petroleum gas business in New Jersey met in the Roger Smith hotel, New Brunswick, N. J., Dec. 15, to set the wheels in motion to form a New Jersey association.

This development follows closely on the formation of an association in Pennsylvania, and is another step in the growing movement to organize state associations to look out for dealers' mutual interests in the Northeast.

Upshot of the New Brunswick meeting was the appointment of an invitation committee to issue invitations to as comprehensive a list as possible to attend a meeting in January. At this meeting further steps will be taken toward forming an association.

The vote that an association should be formed was unanimous among those present.

Edward A. Keible, of Northern Gas Co., Ledgewood, who has been active in making preliminary plans for the association, was appointed temporary chairman. J. L. Earhart, of Blairstown, is temporary secretary.

The invitation committee is made up of L. B. Pettit, of Gas Products, Inc., Flemington; Henry Aust, of Model Gas Co., Bellemead; Guy Richdale, Jr., of Guy Richdale, Somerville; Murray Glass of Modern Gas Co.; and Reinhold Gerstmann of Gerstmann Brothers, Inc.

The house committee consists of Al Milchanoski, of Somerset Gas Co., New Brunswick, and Manny Gale, of Keyport Hardware Co., Keyport.

Those who spoke at the Dec. 15 meeting included Franklin R. Fetherston, of New York, vice president Technical Division, Liquefied Petroleum Gas Association; and State Senator Alfred B. Littell, of Littell Gas Service, in Franklin, N. J.

Mr. Fetherston praised the plan to form an association in New Jersey and told those present of the existing council of state associations.

Many state organizations, he continued, have been formed after state regulations have been adopted, and this presents more difficulties than when an association is formed earlier. As of today, he said, there is no regulation of the industry in New Jersey, but there may be soon, and if regulation is imminent, it is well to be organized so that the industry has a definite plan.

Mr. Keible also referred to the prospect that New Jersey one day would regulate the industry. He pointed out that there was likelihood of taxes, that taxes already have been imposed at Lake Hopatcong. If there is to be a tax, he said, it is important

that some balancing advantage accrue to the industry.

Senator Littell pointed out that in addition to its other advantages, an association like the proposed one can lead to "understanding one another."

Other speakers called attention to organization by the electric industry to oppose the bottled gas business as another reason for formation of organizations in the butane-propane industry.

In addition to those already mentioned, persons attending the Dec. 15 meeting were:

R. G. Rohel, Tri-State Welding Supply Co., Sussex; Willard E. Prigge, C. H. Roberson, Inc., Freehold; Al Lum, Engco Gas Co., Chatham; E. Gerstmann, Gerstmann Bros., Inc.; C. Polyi, of the same company; Clarence Bowers, Engco Gas Co.; Theodore Aust of Model Gas Co., Bellemead; Chester Puco, Blue Gas, Netcong; Bob C. Nickelson, Cylinder Gas Co.; A. Frickel, A. O. B. Gas Co.; Anthony Thannerieux, Lakewood; M. Mitchel, Newton; William Squire, William E. Squire Co., Pompton Lakes; Guy Richdale, Sr., Guy Richdale, Somerville; H. B. Dubois, C. A. Roberson, Freehold; Peter Urebelis and B. R. Pogue, C. H. Roberson.

CALENDAR

March 24-26—Natural Gasoline Association of America. Texas Hotel, Fort Worth.

April 1-2—LPGA North Central Section. Chicago.

April 19-20—Florida LP-Gas Association. Spring Conference. Daytona Beach.

May 31-June 6—Liquefied Petroleum Gas Association Annual Convention and International Trade Show. State Fair Grounds, Sacramento, Calif.

June 13-16—Texas Butane Dealers Association, San Antonio.

Sept. 20-22—National Butane-Propane Association, National Convention and Trade Show. Congress Hotel, Chicago.

States Group Plans Educational Programs

R. H. STINGER

VERNE MUELLER

TAKING advantage of the meetings December 8-10 of the LPGA board of directors and the South Eastern and South Central districts of the LPGA, the Council of State Associations met on December 9 in New Orleans.

A report was given on the package advertising deal of cooperative advertising for dealers and it was reported that this program will be ready by the first of the year and has already been adopted in full by the associations of Texas, Georgia, Oklahoma, Kansas, and Michigan, with several other states still to be heard from.

A report was given by R. H. Stinger, of Michigan, regarding his newly formed state association sponsored school. This school is a one-week course that covers 10 phases of industry activity.

There also was considerable discussion of the home study correspondence course of the National L-P Gas Institute, Tulsa, Okla. (see Page 76). F. E. Farley, president of the National L-P Gas Institute, and Robert

Bradley, chief engineer, outlined the course and also told the Council of their plans to cooperate with state associations in extending this home study course to their members with supervision. The course is fully approved by the Veterans Administration or is available to non-veterans for $176.50. A tentatively suggested cooperative program to be started shortly with the Texas Butane Dealers Association using this home study course was offered.

Other important business before the Council was the establishment of an educational promotion committee which is headed by R. H. Stinger as chairman, assisted by Frank DeGruy, of Alabama; L. C. Parker, of Louisiana; F. V. Mueller, of Wisconsin; Sid Stapleton, Georgia; Paul Boyd, Kentucky; Robert W. Hadlick, Missouri.

This committee will investigate the possibility of making all possible educational material available for educational work by having all available films of manufacturers on file and, where possible, assisting manufacturers in the future with the development of films and other such educational and promotional material.

The next meeting of the Council will be held April 5 in Atlanta, Ga.

Southern States Hold Mid-Winter LPGA Convention in New Orleans

MEETING at the St. Charles hotel in New Orleans on December 10th, the South Eastern and South Central districts of the Liquefied Petroleum Gas Association presented an important program to more than 300 enthusiastic industry members. The meeting had special significance because of the attendance of the entire LPGA board of directors, which had been in session the previous two days.

In addition to the regular program, special attention was given to announcements covering the 1948 convention and international trade show to be held in Sacramento, Calif., June 1-6.

The meeting was chairmanned by Kenneth H. Koach of the South Eastern district and W. G. Petty of the South Central district. The program committee consisted of Louis Abramson, Jr., chairman, and Charles W. Guy and Selwyn Turner.

K. H. KOACH

F. T. CARPENTER

Industry speakers and their subjects were:

F. T. Carpenter, United Petroleum Gas Co., Minneapolis, "An Approach to Safety."

M. E. Meek, Mississippi State College, Stoneville, "Flame Cultivation."

Clarence E. Cooper, Clarence E. Cooper & Co., Inc., New York City, "Insurance in the Liquefied Petroleum Gas Industry."

LPGA Board Approves Committees For Sacramento Convention

TY RANSOME

C. L. PARKHILL

By BOB FARSON

WHILE many important subjects came before the LPGA board of directors' meeting in New Orleans, December 8-9, there was one that was uppermost in thought and conversation—the 1948 convention and international trade show scheduled for Sacramento, Calif., next June 1-6.

This will be the first time the association has ventured beyond the stereotyped meetings that have been standard fare so long and the first attempt of the industry to carry directly to the consumer the varied merits of liquefied petroleum gas as an all-purpose fuel.

Headed by President Ty Ransome, the directors, sensing the enormous benefit this promises to bring to the industry through the wide publicity that will attend the event, approved committee selections, endorsed the plans of Chairman C. L. Parkhill and Director Bob Johnson, and pledged united support to make the occasion successful. Convention leaders were enthused over the interest taken in the show by Easterners and Midwesterners who plan to turn out in force.

Bob Johnson exhibited motion pictures showing California State Fairground scenes, especially within Machinery Hall, where next year's exhibits will be held.

Floyd Campbell, chairman of the Appliance Specification group, made a progress report of his committee and pointed out that LP-Gas ranges will in all probability soon carry the "CP blue star." Tentative approval has been granted by the AGA sub-committee.

A special specification committee was formed to establish recommended practices for the piping of houses and appliances. This committee, headed by Floyd Campbell, includes Luke Abramson, Walter Miller, Harold Massey, John Pankow, John Van Norden, Walter Hoagland, Robert Buckingham and Frank Fetherston.

An approved constitutional amendment consisted of establishment of distinguished service life memberships. A utilities section was established to cover the group, such as piped town plants operated on LP-Gas. An international section was established to cover companies engaged in export. Mexican and Canadian districts were formed. Utah was moved from the North Pacific district to the South Pacific district. Virginia and West Virginia were moved from

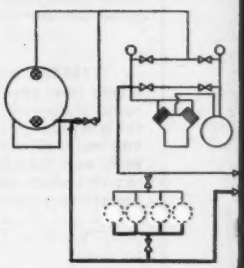
AUTOMATIC SCALE LOADING

Reduces Your Cylinder Charging Costs

The Roney No. 1201 Cylinder Charging Manifold, operating in conjunction with the Roney Vapor Differential Compressor, provides an automatic, accurate, and dependable method of filling cylinders. There is no lost time or waste motion. An operator can devote his entire attention to handling and recording cylinders.

FILLS ACCURATELY AND RAPIDLY. Delicately balanced, dependable trip valves, connected to individual control valves, limit the entry of liquid into the cylinder to a predetermined weight. Net weight of filled cylinders will not vary more than ½ pound. Four cylinders can be charged in 6 to 8 minutes.

SAVES LABOR. Used in conjunction with the Roney Vapor Differential Compressor, the No. 1201 makes your cylinder charging an automatic scale loading operation. Frees the operator and saves you money! Scales not furnished.



Schematic arrangement of a typical bulk plant.

Write today for complete details and prices.

L.C. RONEY INC.

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the South Eastern to the North Eastern district.

The progress report of the insurance committee pointed out that the West Coast insurance plan seems to be working well and will be extended to other parts of the United States. This is written through Lloyds and at present carries rates of 63c to 94c per $100 on total gross business. Limits of liability determine actual rate. Considerable discussion of ways of extending and improving insurance coverage and rates through greater safety effort occurred.

The Texas Butane Dealers Association has been added to the group of state associations with affiliate memberships in LPGA. Thirty new members were approved. Honorary memberships were established. The first three honorary memberships approved were those of M. G. Young, state fire marshal for Oklahoma; Carl B. David, deputy fire marshal for Florida, and J. Edwin Larson, fire marshal of Florida.

A progress report of the publicity committee by Chairman Si Darling indicated that the new industry-wide dealer cooperative advertising program will be ready the first part of January.

A report by the transportation committee indicated the two rate cases are still pending.

A progress report on the joint meeting of the LPGA committee with the AGA committee indicated progress by the LPGA to develop a coordinated advertising program by both AGA and LPGA.

Exhibits were approved for the North Central regional meeting April 1-2 in Chicago.

Reports were made upon the activities of the safety committee by Frank Carpenter and the legislative committee by Ken Rugh.

Committeeman

J. W. McMillan, Jr.

He got married.

ERNIE ADAMS

The convention committees approved are as follows:

General Convention Committee: Ernest Fannin, Larry Wright, Luke Abramson, George Bach, Otto Williams, Charles Russell, Si Darling, Wilbur F. Haines, Stew Matthews, Ernest Adams.

Convention Safety Committee: H. W. Wickstrom, Pat Murphy, Joe Fagan, Walt Buehler, Carl Hopp, Al Maynard.

Special Convention Committee for Allocation of Exhibit and Exhibitors (which also will assist the exhibitors in disposing of the equipment they display after the convention through direct sale and placing in the hands of dealers on consignment for 60 days), consists of Joe Fagan, Ace Bewley and J. Warren McMillan, Jr.

On the final day routine matters were interrupted long enough for Ernie Adams, member of the convention finance committee and director from California, to present his bride.

The board meetings were again opened to industry members, a procedure that is proving to be very popular as it provides those interested with an opportunity to see how the board functions.

The next board meeting will be held at Washington, D. C., March 29-30.

Southern California Gas Co. Will Buy LP-Gas Town Plants

Southern California Gas Co. has applied to California Public Utilities Commission for permission to purchase from Coast Counties Gas and Electric Co., for a base price of $773,606, that company's butane gas facilities in the Imperial Valley towns of Brawley, Calexico and El Centro.

Coast Counties, in December of 1944, also sold its butane-air gas properties at Arcata, Yreka and Dunsmuir.

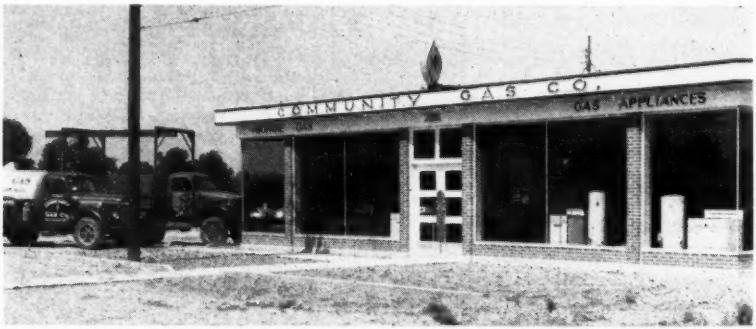
Corken's Centralizes Facilities At Headquarters Location

Charles Corken, head of Corken's LP-Gas department, announces that the firm has acquired a building at 208 East Grand, Oklahoma City, Okla. The new location adjoins the company's headquarters, adding 5000 sq. ft. of floor space to its shops, office, and display facilities.

Bulk plant fabrication shops formerly at 10 N.E. Ninth St. have also been removed to the headquarters location, where the firm now has 8100 sq. ft. of floor accommodations.

Tranfer pump test-line assembly in Corken's new shop.

Another phase of the expansion is the employment by Corken's of Roger W. Kelly, Jr., to represent the company in the Kansas City area and territory north and west of that point.



The newly opened LP-Gas plant of the Community Gas Co., Atlanta, Ga.

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3. Provision for "Criterion" Gauge
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5. Line Valve
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7. Regulator
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*Relief Valves conform to N.B.F.U. pamphlet No. 58

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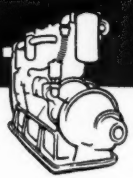


How to Figure Pumping Costs

By C. M. DENTON
Chief Engineer, Pacific Tanks Co., Los Angeles

THIS article will be the last in the series of articles written on the pumping of irrigation or domestic water utilizing the power of butane-propane gas engines. The calculations and figures given in this article are of necessity empirical and are not in reference to any particular installation; however, it is to be noted that most of these calculations are based on field data gathered over a long period of actual observation of this type of unit.

CHAS. DENTON

The formula and tables as given are for practical application of the power medium of a unit designed and engineered primarily for service with a deep well turbine pump, a direct connected drive and an internal combustion engine, specifically engineered and installed for utilizing butane-propane gas as its energizing fuel.

A comparative cost analysis is given between butane-propane gas and natural gas and electrical power. The last is shown on rates prevailing in southern California at the present time, published by the various power companies as required by the California Railroad Commission, and are specifically for irrigation pumping. The natural gas rates that are given are also the published rate at the present time in southern California.

The rates given for butane, however, are those prevailing in the irrigated districts of southern California and are taken from quotations by various independent dealers for bulk butane delivered into the customer's storage which in most cases is a 3000 gross gallon tank installed adjacent to the pumping unit.

In making an economic survey of this type an example of an actual unit is required. Reference is here-

with made to an article appearing in the June, 1946, issue of BUTANE-PROPANE *News* which cited a specific example of a working unit. This unit pumped 700 gallons per minute against a total head of 250 feet and the requirement at the gear head of the turbine was 64 horsepower. The engine, it was explained in the article appearing in the September, 1946, issue of BUTANE - PROPANE *News*, was required to be of the following specifications:

Theoretical BHP at 900 RPM was 68, actual BHP required including frictional loss of gear head and pump, 75 to 80 hp., BMEP 60 pounds, and the engine would have to be of a medium duty type engine as shown in the article written on pumping engines. This is an actual example for California, the actual cost of operation or cost of butane required per hour to operate this unit.

The first step is to convert the horsepower output of the engine at operating loads, including the friction loss of the pump and the drive into Btu's. Thus, we would arrive at a figure known as Btu input or requirement. Stated simply, butane contains 3200 Btu's per cubic foot. It requires 2760 Btu's to generate one horsepower theoretically, so it would appear that the total consumed fuel would be 75 horsepower times 2760 Btu's divided by 3200 Btu's would equal the cubic feet of propane or butane required.

However, we have to calculate the thermal efficiency of the engine or the actual amount of horsepower that the engine will convert from raw gas to shaft horsepower; this is called the thermal efficiency of the engine and is stated in per cent, 100 per cent being a theoretical perfect engine with no heat friction or improper combustion. The efficiencies of various types of engines have been calculated by theory and by actual practice for a good many years. Below is given a table of these efficiencies:

Airplane engines—25%.

FIG. 1

Comparative Costs of Operating One 75 HP. Pumping Unit

Riverside Area of California

Hours of Operation	*Cost of Butane*	*Cost of Natural Gas*	*Cost of Electricity*
1st Hour	$ .48	$ .33	$ 1.23
10 Hours	4.80	3.30	12.32
50 Hours	24.00	16.50	61.60
100 Hours	48.00	29.48	103.40
240 Hours 8 hr. da. 30 da.	115.20	60.21	200.62
360 Hours 12 hr. da. 30 da.	172.80	80.84	254.62

Note: Butane cost assumed as .06c per gallon in 3000 gallon storage minimum. Natural gas $5 per month minimum. Electricity $250 per month, or $3000 per year. Monthly electric cost based on .006 cents (6 mills) per KWH, the agricultural service bracket, lowest in the United States. In above example, power furnished by Southern California Edison Co.

Truck and bus engines—28.2%.

Tractor engines, approxmately 21%.

Stationary diesel engines—29%.

Marine diesel engines—31%.

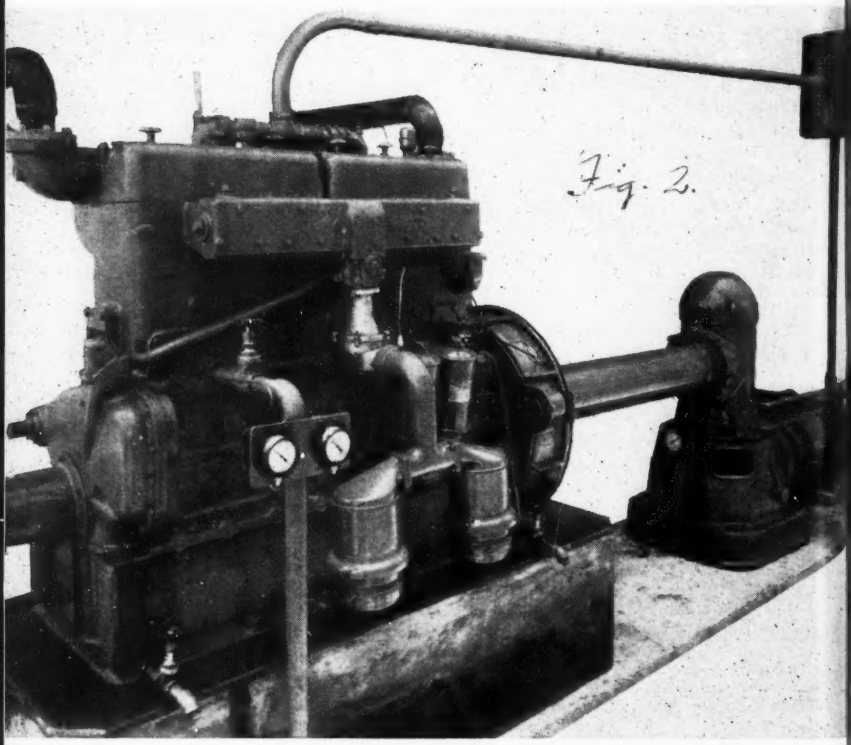
Stationary gas pumping engines—32 to 34%.

It will be noted from the foregoing figures that the stationary gas engine, with exception of the large marine type diesel engines, is one of the most efficient prime movers in use today.

By assuming that we have a stationary gas engine that produces power at a thermal efficiency of approximately 34%, this means for every 100 gallons of propane or butane required in horsepower, at theoretical 100% efficiency, 295 gallons would be the actual butane requirement at 34% thermal efficiency.

This rule can be figured out from

A directly connected irrigation engine.



the following table much easier than by calculating through Btu figures in ratio to thermal efficiency of the engine. This table is taken from page 607 of the "Gas Engineer's Handbook" and is entitled, "Table 57."

The load of the engine determines the quantity of gas engine fuel consumption Btu per brake horsepower hour. Starting with ¼ load, 17,000 Btu's will be required; at ½ load, 12,500; ¾ load, 11,000; and full load, 10,000 Btu's per horsepower hour. This figure can be interpreted directly into the number of gallons required of butane for the theoretical engine we have cited above. This would be 75 HP x 11,000 Btu's by 103,000; thus, the theoretical engine, as stated above, would require approximately 8 gallons of butane per hour at ¾ its rated capacity.

Seventy-five horsepower at 900 RPM on this particular type engine would be the actual load on the engine. Coupled with this would be the item of overhaul and general maintenance expense on the engine which approximates from field study on a medium speed engine 3% of the first cost of the engine per year.

Totaling this cost, we would get the following figures: At approximately 8 gallons per hour of butane delivered into the customer's tank for consumption in a pumping engine, with the price of fuel in southern California 10c per gallon, gives us a figure of 80c for fuel per hour.

The original cost of the engine is approximately $2200, 3% of

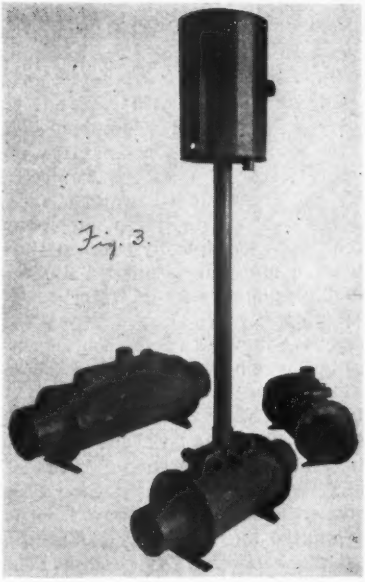
which would be $66 per year. The pumping engine operates approximately 6 months of the total year; therefore, this figure would be divided by the total number of hours the engine operates during the 6 months which would be approximately 5c per hour for general maintenance and overhaul repair.

The amount of lubricating oil consumed by a gas engine is dependent upon the kind of oil used, upon whether or not the oil is reclaimed by filtering, upon the operator, and the type of engine; however, it is safe to estimate one gallon of lubricating oil for each 2000 HP hour of engine rating on large installations. Lubricating oil guarantees can be obtained from the engine builders.

Practically Runs Itself

The modern gas engine is practically automatic in its operation and does not require skilled labor to operate it, or expert supervision. All that is necessary is to see that the engine is supplied with lubricating oil. Inasmuch as it takes only a very small part of the operator's time, not enough to affect his routine work, it is not at all necessary to charge labor on small installations.

The operator of the farm pump for irrigating or domestic purposes need only check the engine once each running period—that is, during one 24 hour period when the engine is operating. He can look at it occasionally if he happens to be in the neighborhood, but normally these engines will operate in a fully automatic condition on an irrigating pump as long as they are supplied with sufficient cooling water, lubricating oil and fuel.



Component Parts of Cooling System

From the above facts and figures we will be able to determine a cost analysis in reference to natural gas, electricity, and butane, for the pumping of butane gas engines. Shown herewith is a comparative chart (Fig. 1) citing the original theoretical engine, as stated above, of 75 brake horsepower and the requirements for that type of engine as indicated for electricity, first; natural gas, second; and butane, third.

It is to be noted in this analysis that natural gas will be the cheap-

est medium for firing an engine for irrigation pumping in this area as natural gas for this type of work is sold to the customer on a more or less surplus basis due to the fact that it is a summer load.

In the accompanying pictures are shown (Fig. 2) a directly connected irrigation engine utilizing the free-flow water cooling system and showing very graphically the method used in supplying properly adjusted and regulated cooling water to irrigation engines. Fig. 3 shows the component parts of the cooling engine system in a knocked down condition and a comparison between the two pictures will show the approximate location of these units. It is to be noted that the heat transfer unit is a tube type condenser and the water flow is regulated by a butterfly in the top of the condenser or cooling heat transfer unit.

Any information in regard to the use of irrigation engines, their maintenance, cooling, or facts with reference to cost of pumping with butane-propane gas will be gladly given by the writer. It is suggested that inquiries be directed to BUTANE-PROPANE *News*.

Mississippi Field Begins First LP-Gas Production

The first propane gas produced in Mississippi is being shipped by tank car from the Cranfield cycling plant in Natchez. The shipments mark the inception of a new producing industry in Adams county and the state of Mississippi.

The Cranfield plant, constructed after the surrounding oil field became the second largest field in the state, represents an investment by the California Co. of $4,500,000.

Best available figures indicate that the field will produce 65 MMcf of gas per day for the next 15 years. The Cranfield plant is similar to the recycling plant which was opened some time ago in the Lake St. Jon field by the same company and is expected to result in the production of 14,000,000 bbls. of petroleum products. Of this amount 10,000,000 will be crude oil and 4,000,000 will be condensate, propane and butane.

In the recycling operation the wet gas from the oil wells will be processed and reinjected into the gas sands at the center of the dome to maintain pressure and to keep oil from moving up and becoming lost.

The adsorption and recycling plant will maintain a pressure of 400 psi on the reservoir during the life of the field, which is estimated at 10 years, when producing wet gas at the rate of 100 MMcf per day.

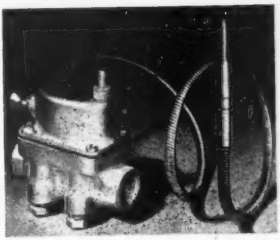
The dry gas, after recycling, will be injected into the center of the field at the rate of 100 MMcf per day.

Two "Rockgas" Companies Combine in California

The consolidation of the Rockgas Service Co., San Diego, Calif., and Rockgas & Appliance Co., Vista, took place Dec. 1.

Owned by Lester Kling and W. H. Peters, respectively, the new firm will operate under the name of Rockgas Service Co., Inc., and will serve over 3000 domestic accounts in San Diego county, using more than a million gallons of propane and 250,000 gallons of butane-propane mixtures.

New MR-2 SAFETY THERMOPILOT



THIS new electro magnetic thermopilot assures unfailing safety in gas control applications. Used on space and unit heaters, central and floor furnaces, water and range heaters, hot water and steam boilers. Handles manufactured, natural or LP-Gases.

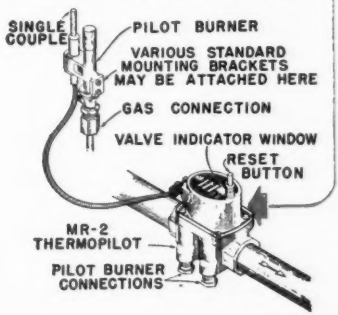
On the installation diagram, the new MR-2 valve and the new 26-R Pilot Burner are used for out-pilot safety control. No outside current is required. Valve holds open until released by pilot-flame failure. 100% gas shut-off will be maintained until pilot light is reignited and valve manually reset by push button.

For further information, contact your nearest factory branch or distributor, or write for Catalog 52-B and Manual F1-101.

Check these outstanding features:

- Streamlined design.
- High-flow capacities.
- Visual valve position indicator.
- Design simplicity.
- Sealed electro magnetic assembly.
- Heavy duty 5/16 round thermocouple.
- Flexible armored cable leads.

MR-2 INSTALLATION



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CURRENT READING

● Reviews of new books, pamphlets and articles published in recent magazines of interest to technicians and executives in the liquefied petroleum gas industry. Those interested in reading any complete article or book should write to the publications named.

●

Air Conditioning, by Herbert Herkimer, M. E., and Harold Herkimer, M. E. Published by Chemical Publishing Co., 26 Court St., Brooklyn 2, N. Y. Provides required information on every phase of air conditioning such as as estimation, sales, production, installation, supervision, service, etc. The laws of chemistry and physics as associated with air conditioning are discussed together with the practical aspects of the industry, such as equipment, materials, and costs.

A partial list of the table of contents shows the following subjects to be covered: Gas laws; physical and chemical states of matter; change of state; heat transfer; heat transmission of building materials; heat transmission factors in cooling; radiant heating; elementary thermodynamics; water vapor mixtures; dynamics; fans, ducts and air distribution; heating load; cooling load; dehumidification and humidification; and many others.

Many tables, illustrations and problems and their solutions are contained in the 720-page book which is priced at $12.

Method for Calculating the Properties of Hydrocarbons and Its Application to the Refractive Indices, Densities, and Boiling Points of the Paraffin and Monoolefin Hydrocarbons—W. J. Taylor, J. M. Pignocco and F. D. Rossini. Bureau of Standards: Research Paper RP1651.

Encyclopedia of Hydrocarbon Compounds, compiled by Joseph E. Faraday, Ph.D. Published by Chemical Publishing Co., Inc., 26 Court St., Brooklyn 2, N.Y. This second volume (1947), deals with compounds containing six and seven atoms of carbon.

New features in this volume include a comprehensive treatment of physical properties with references, the marking of methods which may be of special use for laboratory preparation, an improved list of journals, data on free radicals and on hydrocarbons containing heavy hydrogen and the carbon isotope 13. Also included in volume II are chapters on molecular formula, structural formula, occurrence in nature, trivial names, methods of preparation, physical constants, methods of detection, and outstanding properties.

The encyclopedia is published in loose-leaf form so that each year the annual issue of new sheets available may be inserted in the proper order for keeping the volume up-to-date. Price: $17.50.

Stop Fires - Save Jobs — National Board of Fire Underwriters, 85 John St., New York 7. A 16-page booklet devoted to the education of employes to the hazards of fires and methods of prevention and caution. Basically designed to help management and labor cooperate in a sound program

of fire prevention, the booklet points out that industrial fires also cause losses in unemployment, lost production, and business failures, two or three times greater than the dollar property loss.

Information upon how to detect and remove hazards that are common to most industries are included along with the basic elements of fire protection which consist of the operation and importance of sprinkler systems, fire extinguishers, automatic alarms, fire doors, exit drills, and other safeguards. Panic prevention and first aid are also outlined in the booklet.

Copies of the booklet may be obtained free.

Underground Corrosion, by K. H. Logan, Circular C450. U. S. Bureau of Standards. This circular is an assembly of the results of the National Bureau of Standards investigations of underground corrosion which began in 1922. The fundamental causes and processes of underground corrosion are those occurring in the air or water, but their relative values are different. Corrosion in soils is the result of soil characteristics and conditions but these are too numerous and complex to permit a satisfactory correlation of corrosion with any one soil property.

The results of the tests of ferrous materials given in this circular indicate that the commonly used ferrous pipe materials do not differ greatly in their resistance to soils and that their apparent relative merits are either accidental or dependent on soil conditions. Low-alloy ferrous materials lose weight more slowly than unalloyed ferrous materials, but are penetrated by corrosion as rapidly. Alloys high in nickel and chromium are very resistent to corrosion.

In most of the soils investigated the rate of corrosion of ferrous materials decreases as the exposure is prolonged. Any rate of corrosion is applicable only to the area of the metal tested and the time it was exposed. The life of a pipe cannot be predicted solely from the loss of weight or the depth of a pit at any given time.

The corrosiveness of the soil can be indicated only by a formula which takes account of the characteristics of the soil to which the pipe is exposed, the change in the rate of corrosion with time and the area of the exposed metal.

The effectiveness of metallic coatings depends on the soils to which they are exposed. No metallic coating is suitable for all soils. Few coatings are free from all pinholes and other imperfections.

Important causes of coating failures are improper application and injuries incidental to pipe laying.

Gas Facts—American Gas Association, Bureau of Statistics, 420 Lexington Ave., New York 17. This volume, the culmination of more than two years of study, analysis, and revision of the gas industry's statistical program, contains nine sections and 150 tables giving accurate, up-to-date information on gaseous energy reserves; production, transmission, distribution, sales and utilization of manufactured, natural, mixed, and liquefied petroleum gases. The publication of this 176-page book is the first in a new series of annual statistical year books to be published by the Association.

Organized on a functional basis, each section of the book is preceded by an outline table of contents for ready reference to tabular material and is introduced by a brief explanatory text.

Copies are available at $1.

Abstract of American Gas Association
Domestic Gas Research Bulletin

The 23rd formal publication based on results of research conducted at the AGA testing laboratories, and the tenth in a series on domestic gas cooking research. This bulletin deals with problems encountered in the attainment of uniform heat distribution in gas range ovens. Experiments reported on in the pamphlet were conducted by M. E. Ward, Evelyn Murphy, and Gladys McKeever. Price of this bulletin is $1.25.

No. 1 of a series. Research Bulletin No. 35, entitled, "Oven Heat Distribution in Domestic Gas Ranges."

A. Effect of Oven Constructional Changes

1. Changes in vent openings around the oven bottom produce definite effect trends on color of cake surfaces. Most pronounced are the effects of a decrease in width of side openings as evidenced by darker cake surfaces if a front opening is provided and decidedly lighter surfaces when no front opening is provided. Blocking the rear portion of the side openings caused the bottom surface of the cake at the front of the upper rack to become considerably darker in color. Variations in reflectance as great as 6 to 8 per cent may be expected with oven bottom vent opening changes.

2. Location of vent opening in side walls with respect to the oven bottom appears to influence the color of individual cake surfaces rather than to indicate a general trend. Raising the outlets of these side vent openings resulted in decided darkening of two cake surfaces, the bottoms of the front cakes on the lower rack, and the bottoms of the rear cakes on the upper rack. These variations were indicated by a 9 and 10% average reflectance change, respectively.

3. Flue outlet changes are most significant when the flue area is decreased and when the flue opening is spread over a wider area in the oven top with no change in total flue area. In both cases a decided lightening of cake surfaces can be expected, being as much as 10% in variation of light reflectance.

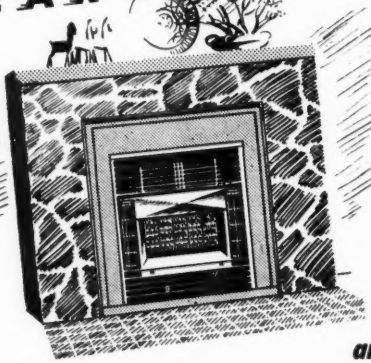
Changes brought about by lowering the rear flue outlet and moving the top liner flue outlet forward produce less positive trends but the variations noted were towards darker cake surfaces.

4. Lighter cake surfaces, especially bottoms, result from an increase in oven bottom insulation. Bottoms of cakes on lower rack show increases in light reflectance as high as 9%.

5. Definite darkening of the front cakes occurs when the oven burner is moved forward, the bottom surfaces with a 7.5% reflectance variation exhibiting the more pronounced effect. Increasing the vertical distance between the burner and the oven bottom results in lighter top surface colors of all cakes. The bottom surfaces do not follow any definite pattern, some being lighter and others darker in color.

6. The degree of overshoot, or the absence of any overshoot, in oven temperature due to thermostat bulb location or shielding is reflected in the color of cake surfaces. As logically would be expected overshoot results in darker cakes, the greater the over-

CLEAR THE WAY



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shoot the darker the cakes. Where there is no overshoot the cakes are lighter in color. The overshoot referred to is that resulting from placement of cakes in the preheated oven.

7. Cakes baked in ovens controlled by snapacting thermostats compare favorably with those baked under graduating thermostat control.

8. Raising the bottom rack or lowering the top rack produces marked changes in oven heat distribution. In the former case the cakes on the bottom rack become lighter in color while the top rack cakes are darker. In the latter case the surfaces of the cakes on the bottom rack again become lighter in color while the top rack cakes change in color in an unpredictable manner.

9. Changes in over burner gas input rate have very little effect in distribution of heat in an oven except at rates too low to maintain the oven at its baking temperature.

10. Where openings that supply secondary air for the oven burner are concentrated in one particular section of the burner box, it was found that the cakes located directly above such openings display a tendency to be darker in color. Where secondary air enters the burner box through more uniformly distributed openings this condition was not in evidence.

11. Polished or dull interior oven surfaces have no effect on oven heat distribution.

B. Effect of Changes in Operating Conditions, Test Procedures and Test Equipment

1. Tilting the ranges into off-level positions by elevating one side did not upset oven heat distribution except in extreme off-level positions. Tilting ranges from front to back or back to front, however, produced upsets in distribution of heat sufficiently strong to indicate that care should be exercised in installing ranges in a level position.

2. The length of time the oven door is left open while placing food in the oven, up to one minute, did not change heat distribution sufficiently to effect final results in cake color. For conventional thermostat bulb locations, at the top of the oven, the degree of overshoot did not exceed 15° to 20° F after the oven door was left open for one minute.

3. Variable amounts of leakage of flue products into the room due to a poor fitting oven door definitely alter the pattern of heat distribution in the oven. However, the change in distribution does not follow any noticeable trend, resulting sometimes in better and sometimes in worse distribution.

4. Within very reasonable limits, variations in the sugar and fat content, temperature, or weight per cake of the standard cake batter did not affect the color of the cake.

5. When cakes are baked from a cold start instead of first preheating the oven the results are practically the same provided the time of baking is increased slightly over that required with a preheated oven. Gas consumption when baking in a preheated oven is somewhat greater than when baking without preheating, being approximately 15% greater when the oven is preheated for 15 minutes.

6. Positioning of cakes in the oven, relative to each other and to the oven walls, has an important bearing on heat distribution. When moved closer to the walls than the prescribed distance, uniformity of distribution is upset materially. The same is true to an even greater extent when moved closer to the front than the correct distance. When moved farther than the normal distance from the side

walls very little change in heat distribution takes place.

7. When the number of cakes per "bake" is reduced from four to three or two, the effect on the distribution of heat is plainly evidenced by the fact that the bottom surfaces of the cakes, especially those on the lower rack, become much lighter in color. The uniformity of heat distribution, however, is improved since the difference in per cent reflectance between the lightest and darkest portions of each "bake" of three or two cakes is generally less than when 4 cakes are baked.

8. The color of a cake bottom is influenced proportionally by the ability of the outside surface of the cake pan to absorb heat. An equation has been developed establishing a relationship between the color of the cake bottom and the absorptivity coefficient of the outside surface of the pan bottom. In general, for metal pans, the brighter and more polished the surface, the lighter the color of the cake bottom.

9. After approximately 20 minutes in the oven the rate of darkening of the bottom crust of standard test cakes is greater than that of the top crust when the cakes are baked in aluminum or tin pans. As the tops tend to "brown" first it is possible to decrease the difference in color between the top and bottom crusts by prolonging the baking time. Moreover, as baking time and temperature independently exert an influence on rate of color darkening, it is possible by combining these variables to bake cakes whose top and bottom surfaces are closer to the same color.

10. It was found that when heat distribution is such that an oven will satisfactorily bake standard test cakes, it also is flexible enough in operation to produce good quality baked goods of any type.

C. Study of Use of Artifical Cakes for Determination of Oven Heat Distribution

1. "Aluminum disc cakes" were developed for use in place of actual cakes for determining the change in or trend of heat distribution resulting from changes in oven construction. This substitution is made possible by the development of relationships or ratios between surface temperatures of the aluminum "cakes" and reflectance values of surfaces of actual cakes. These relationships permit conversion from surface temperature readings to reflectance readings with an acceptable degree of accuracy.

2. Special "paper cakes" were also developed for use in a manner similar to that for "aluminum cakes." Actual reflectance readings of the "paper cakes" can be taken, however, and a correction applied to convert the reflectance value so obtained to that of an actual cake under the same oven conditions.

3. The use of color charts affords a quick and easy method to determine the approximate reflectance value of cake surfaces. They are not intended, however, to replace the use of the much more accurate reflectometer but rather to standardize and aid the visual inspection necessary where a reflectometer is not available.

Colorado Plant Will Make 66,000 Gals. of LP-Gas Daily

Plans for a plant to manufacture 25,000 gallons of gasoline daily from natural gas in the Rangely oil field of northwestern Colorado are announced.

The plant will use more than 20 million cubic feet of the gas daily and will produce 50,000 gallons of propane and 16,000 gallons of butane daily, in addition to the gasoline.

Janus had the right idea...

January is named after an old Roman god named Janus—a gentleman who was unique in that he had one face in front, plus another behind—so that he could look over the old year and forward into the new one.

It's a good idea. Look back over the heater lines that have really "gone to town" for you during the past year—and look forward toward the ones that will be real money-makers during the coming year. In both directions you'll see one outstanding line of heaters—DEARBORN.

Dearborn's phenomenal success has been built on two very solid facts: 1) The Dearborn is the finest, safest—and best looking—gas heater on the market. 2) We've told the world about it in no uncertain terms, with one of the strongest consumer advertising campaigns ever produced by a heater manufacturer.

LOOKING FORWARD: *Both* of these factors will continue, during the coming year, to make Dearborn the top heater line on every count!

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Merchandise Mart
Suite 1490
CHICAGO, ILLINOIS

3025 South Grand Avenue
LOS ANGELES, CALIFORNIA

Merchandise Mart
1355 Market Street
SAN FRANCISCO, CALIFORNIA

NEW PRODUCTS

Air Cooler

Payne Furnace Co., Beverly Hills, Calif.

Model: "Cooler Air."

Application: For home and commercial cooling.

Description: With the use of a new type "fiberglas" evaporation filter, a total of 5100 miles of spun glass filaments are fluffed into swirls to form a clean, odorless surface over which circulated water is sprayed by special nozzles and through which the air is drawn by a powerful fan which is rubber-mounted for quiet operation.

True air delivery is claimed of from 2300 to 8000 CFM, according to size of unit.

Other features include a high-performance circulator pump which is driven by flexible shaft from main motor, thus eliminating an auxiliary pump motor. Rust-resistant fan, positive action, non-clogging water feed valve, and non-corroding all-aluminum outer casing are also featured.

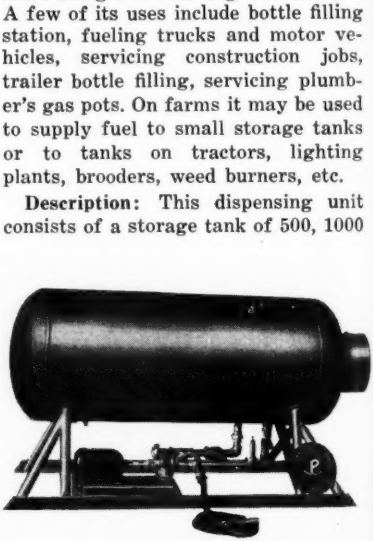
Mobile Dispenser

Parkhill-Wade, LPG Division, 5017 E. Anaheim-Telegraph Rd., Los Angeles 22.

Model: 500B1-2-3.

Application: The mobile dispensing unit is for storing and pumping LP-Gas at any point where needed. It is light enough to be transported to any place where vehicles or other equipment using this fuel might be located. A few of its uses include bottle filling station, fueling trucks and motor vehicles, servicing construction jobs, trailer bottle filling, servicing plumber's gas pots. On farms it may be used to supply fuel to small storage tanks or to tanks on tractors, lighting plants, brooders, weed burners, etc.

Description: This dispensing unit consists of a storage tank of 500, 1000



or 1500 gal. size, according to requirements. Tanks are built to API-ASME code for 250 lbs. working pressure and are mounted on strong base framework by steel braces so that they are rigid and safe to transport by truck or skid to any point needed. Entire unit is painted aluminum.

All necessary equipment for filling or emptying tank is built as an integral part of the unit. This includes a Smith pump, rotary gauge filler valve, vapor return valve. All necessary piping, valves and fittings are included. System is also equipped with complete circuit for circulation of liquid back into storage tank when not dispensing. All fittings are of forged steel or bronze.

Unit includes 10 ft. length of ¾-in. butane - propane dispensing hose equipped with patented Parkhill-Wade filling hoze nozzle and fittings. Starting of system is controlled by explosion-proof, push-button switch.

Liquid measurement meter, with patented differential control to insure measuring of liquid, only, can be had if desired. This can be hooked up with new Parkhill station dispenser, with automatic cost computer.

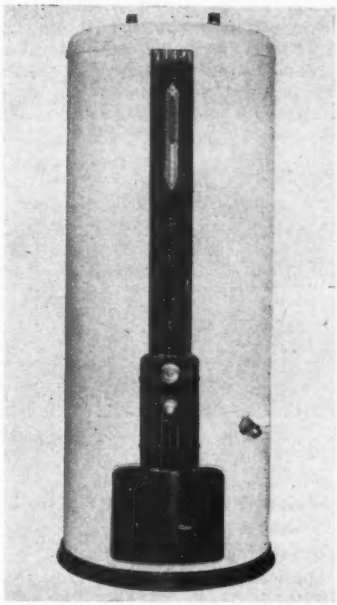
This unit may be set up anywhere that electrical connection is available. It is prefabricated and completely assembled ready for immediate use. It complies with requirements of NBFU Pamphlet No. 58.

Water Heater

The Coleman Co., Inc., Wichita, Kan.

Application: For use with butane, propane, or any mixture of LP-Gases.

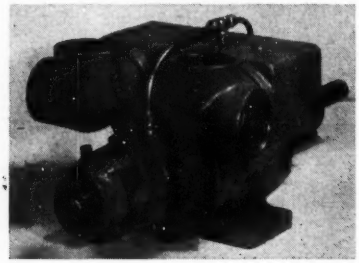
Description: Available in three sizes, 20, 30, and 45 gallon capacity. The overall floor space requirements vary from 19½ in. x 19 in. x 47 in. to 23½ in. x 60½ in. Bearing the AGA seal of approval, the water heaters are completely automatic with the outer casing finished in white plastic enamel with maroon trim. The heater has two inches of blanket type fiberglas insulation on top and sides.



Equipped with an easily removed, all-steel atmospheric burner and with ribbon-type gas ports raised approximately ½ in. above the burner body, shaped to permit secondary air to make free contact with the flames insuring complete combustion. A 100 per cent safety pilot is also provided.

A Grayson control consolidates the thermostat, safety shut-off valve, main gas cock, gas flow control valve, and pilot valve in one unit, which is enclosed within the heater casing with only dials for water temperature se-

lection and fuel flow visible. Other features include a full-length dip tube, removable flue baffle, off-center heat exchanger, extra heavy galvanized storage tank, and conveniently placed lighter door and drain cock.



Liquid Pump

Harman Pump Co., 1110 E. 14th St., Los Angeles 21.

Model: Fig. 819.

Application: In the 800 series, Fig. 821 (bulk plant transfer pump) is available with new Harman gear case for use with liquefied petroleum gas. Motor available or engine can be used for power, if desired.

Fig. 819 (shown here) is new Harman truck pump designed for power take-off. Can be used on any LP-Gas truck where liquid is transferred from or to truck tank.

Description: The Harman 800 series is a complete, new design. It offers greater capacities for the transfer of LP-Gas and has many new features that give longer life and trouble-free operation.

The vane-type principle of the old Harman pump is retained but vanes are larger and so constructed as to increase life many times. The pump shaft is carried on independently lubricated outboard, precision, ball bearings. No bearings run in pump fluid.

Capacities of the new pump have been greatly increased giving almost twice the gpm for the same size pump. All models have flanged connections, making it possible to mount or dismount pump with speed and a minimum of tools.

All parts are standard and can be purchased out of stock. Parts are manufactured to close tolerances which permit installation in the field. Parts will fit without modification of machine work. No presses, reamers or bearing fitting necessary.

All Harman pumps used for LP-Gas are equipped with pressure lubricator. This supplies ordinary oil to the packing glands, providing an oil seal. Thus packing does not dry out, pressures are equalized and oil cannot flow back to pump when shut off. The oil reservoir can be mounted directly on the pump or in an accessible location such as the back of truck cab.

Bulk plant transfer pump (Fig. 821) has differential pressures to 50 lbs. Capacities 30 to 150 gpm. Truck pump (Fig. 819) will allow capacities of 25 to 140 gpm at standard speeds.

Combustion Assemblies

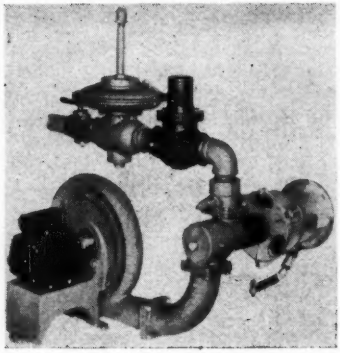
Bryant Heater Co., Industrial Division, Cleveland.

Model: "Pow-R-Semblies."

Application: Adapted to firing boilers, air heaters, dryers, ovens, kilns, and wherever semi-open burners with controlled flames are desired.

Description: The new packaged units combine air handling, gas supply, mixing and burning elements, and are normally built as single burner units but can be supplied with twin-nozzle burners.

According to the manufacturer,



the heart of the new unit is the newly developed "Mixjector." Using air from a constant-pressure blower, the mixing device draws gas through a zero governor in whatever quantity is required for the selected mixture and supplies the mixture to the burner nozzle. The velocity of the flame draws in considerable secondary air which keeps the nozzle cool. A shutter on the back of the burner cage controls secondary air where a heavy draft is available.

The assemblies are available in eight capacities, ranging from 400,000 Btu per hour to the largest unit with a rating of 3,300,000 Btu per hour. The units burn any low pressure gas, from 400 Btu upwards, at 3 in. to 11 in. water column. A single, easily locked adjustment sets the air/gas ratio, maintaining the flame characteristics desired until the adjustment is changed. Each size is available in four variations of control. Square-flanged connections permit easy arrangement of the individual assembly elements in the most desirable position. The burner may be placed in line with the blower, or at right angles to it in either direction.

Space Heater

Robinson Heaters, Inc., 1397 N. Grant Ave., Columbus 1, Ohio.

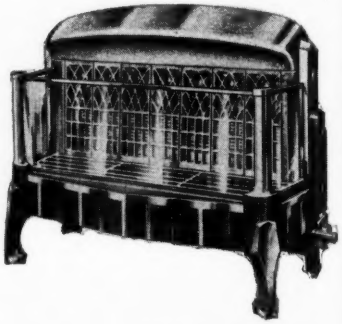
Model: Radaire 7R1B and 7R2B.

Application: Domestic space heater.

Description: This heater, built of substantial gray iron castings and finished in either antique bronze or bright nickel, has a capacity of 30,000 Btu's. The glass enclosed front is heat tempered, ¼-in. plate and passes a high percentage of the radiant rays. Serving as an effective and attractive safety guard, the glass acts as a closed-in convector casing. It has polished stainless steel trim.

Radaire heater backs, utilizing recent improvements of formula and technique, are of thin, hollow wall construction — light but strong, with air pocket insulation.

Correct heat transfer is attained by convection, radiation and conduction. The glass front provides convection; radiated heat is obtained from the incandescence of the ceramic radiants; and conduction is obtained by conducting heat from the burner and radiants to the perforated hearth plate. Transfer of this heat is then accomplished by entering cold air from floor, passing it through the hearth plate and circulating the air out of the heater.



THE TRADE

The name of **Downingtown Iron Works, Inc.,** Downingtown, Pa., manufacturers of underground and above-ground propane storage tanks, was incorrectly spelled in our November, 1947, issue.

Educating the consumer for the first time in 30 years, **J. C. Pitman & Sons Sales Corp.,** Lynn, Mass., manufacturers of "Pitco Frialators," are advertising in "Good Housekeeping." The Pitco Frialators have won the Good Housekeeping Seal of Acceptance for this deep-fat fryer and the food it fries.

Ray Jewell, for many years associated with the promotion and sale of LP-Gas ranges on the Pacific Coast, has been appointed head of the **Western Stove Co.'s** activities in this field, it is announced by Henry Honer, president of the company, which manufactures "Western - Holly" gas ranges.

RAY JEWELL

Mr. Jewell, a native Californian, has been identified with the LP-Gas industry since its beginning and brings a practical experience to this important division of the company's activities. He was formerly sales manager of the West Coast Heater Corp., where he covered the West on LP-Gas distribution. Prior experience in this field includes supervisory work in the appliance department of Bullock's and the Rheem Manufacturing Co. In addition to his experience in the LP-Gas field, Mr. Jewell has 13 years of sales experience in the gas range industry.

Sales and public relations activities of the LP-Gas division will be directed from the company's plant in Culver City.

Irvin W. Peffley, for many years an executive of the American Stove Co. and a leader in gas industry activities, died at his Florida home Nov. 30 at the age of 72.

Prior to his retirement in 1940, Mr. Peffley served the American Stove Co. as manager of the export division and was for several years a vice president and member of the board of directors. He began with the George M. Clark Division of the company in 1896, serving first as a bookkeeper in the New York office. It was largely through Mr. Peffley's efforts that his company entered the export field in 1913.

The appointment of A. J. Horn as sales promotion and advertising manager of **Payne Furnace Co.,** Beverly Hills, Calif., was announced recently by E. L. Payne, president of the company.

Mr. Horn succeeds the late Ralph V. Hiatt, for over 20 years "Payne-heat" advertising manager, who died

suddenly last month following a brief illness.

"Art" Horn joined Payne in 1945 as director of research and later became manager of the company's Long Beach retail branch.

New "Universal" gas range models for 1948 were unveiled in an advance showing at the Park Lane hotel, New York City, the week of Dec. 8 and will be introduced to the trade at the Winter Market in the American Furniture Mart in Chicago, starting Jan. 5.

Cribben & Sexton Co., of Chicago, manufacturers of Universal gas ranges, announces a drastic departure from present models and innovations that are different from any offered by either gas or electric ranges.

Servel (Canada) Ltd., announces removal to its new address, 548 King St. West, Toronto, Ontario.

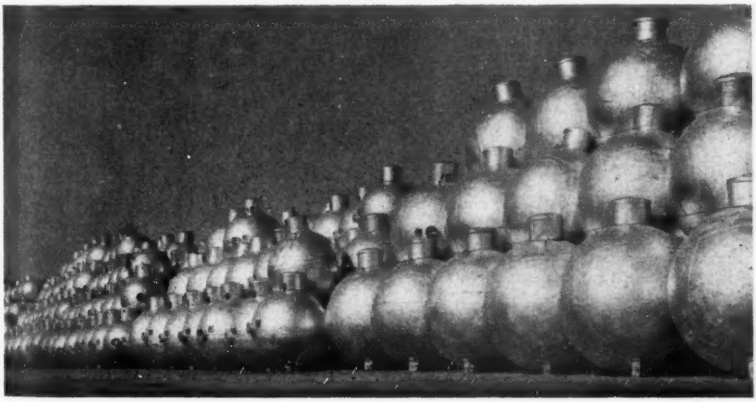
ROGER KELLY

H. DALE JORDAN

Charles M. Corken, executive vice president of **Corken's, Inc.**, Oklahoma City, Okla., pump and LP-Gas compressor manufacturers, announces the following additions to his executive personnel and staff:

H. Dale Jordan, general manager, whose duties include coordination of the sales and production departments and general company management.

Thomas D. Fausett, manager cus-



Spheres of the Dallas Tank Co. stacked in yard awaiting shipment.

AL CATES

THOS. D. FAUSETT

tomer relations, formerly of the army air corps, personnel section.

Al Cates, assistant to the chief engineer, Garth Kennedy; also, supervisor of new installations and general field engineering problems. Mr. Cates was formerly a member of the engineering staff of Black, Sivalls and Bryson, manufacturers of LP-Gas tanks.

Roger W. Kelly, sales engineer, in charge of sales for Corken's entire northern division, with offices in Kansas City, Mo. Mr. Kelly gained a wide experience in the industry through service as a sales engineer with the Columbia Steel Tank Co., LP-Gas division, Kansas City.

Ralph E. Beisner, formerly president of Lincoln Manufacturing Co., Los Angeles, LP-Gas tank builders, has just completed the installation of a steel fabricating plant for his brother near Palm Springs, Calif., and has returned to his home at 529 Workman, Arcadia.

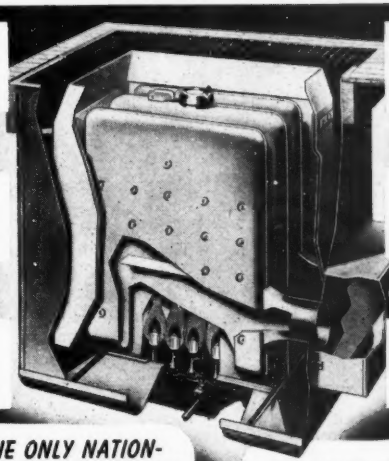
Le Roi Co., manufacturer of heavy duty engines, Milwaukee, announces that C. W. Pendock has resigned as its president. E. A. Longenecker, who has been president of the Lauson di-

Not An "Adaptation"—A REAL LP-GAS FURNACE Engineered For LP-GAS Throughout, By AMERICA'S LARGEST MAKER of HOME-HEAT UNITS

Exclusive LP-Gas Burner—especially engineered for LP-Gas. Not an "adaptation"; approved by AGA.

Exclusive patented Streamlined Bottom that speeds warm-air flow; sold thousands on Coleman!

Automatic Safety Pilot—with 100% positive shut-off—a safety feature that sells.



Has all famous Coleman "Warm-Floor" features millions are reading about—gives you more "pre-sold" customers.

Works with Butane, Propane or Mixed LP-Gases—widens your opportunities for selling.

Made by Coleman!—America's largest maker of home-heating units—trusted by millions.

HERE'S THE ONLY NATIONALLY-KNOWN FLOOR FURNACE WITH SPECIAL LP-GAS ADVANTAGES--SO--

LET'S MAIL THIS COUPON FOR DETAILS OF THE COLEMAN FRANCHISE!

COLEMAN CHALLENGES COMPARISON!

Send now for these facts — about this advanced Coleman LP-Gas Floor Furnace that you can *sell easier*, with faster turn-over. Compare the Coleman features that have won thousands, against any other floor furnace. Compare Coleman's special engineering, that makes this a TRUE LP-Gas unit! Compare the way Coleman backs you with merchandise and advertising. And get the terms of the Coleman franchise which have already won so many top dealers. Coleman welcomes every comparison, for comparison will win you, too. Mail the coupon now!

The Coleman Company, Inc.,
Wichita 1, Kans.; Philadelphia 8 (Terminal Commerce Bldg.); Los Angeles 54.

LP-gas Floor Furnace **Coleman**

The Coleman Co., Inc., Dept. BP-657, Wichita, Kansas.

Yes, please have your Coleman distributor near me give me full facts about the dealer franchise for Coleman LP-Gas Floor Furnace in my locality.

Name.....

Store Name.....

Address.....

City.....State.....

vision of Hart-Carter Co., was elected as his successor by the board of directors. Mr. Pendock was elected to the position of chairman of the board.

Mr. Pendock has been the only president in the company's history and he was instrumental in the introduction of the gasoline engine to power construction equipment.

M. C. (Craig) Miller, who entered the household appliance field more han 20 years ago, has been named manager of sales promotion and sales training for the Norge division of Borg-Warner Corp., it is anounced by M. G. O'Harra, vice president and director of sales. The appointment became effective Nov. 1.

M. C. MILLER

Mr. Miller joined the Maytag Co. in 1926, upon graduation from the University of Iowa.

Thurlo F. Johnson, central regional sales manager, has been named to the newly-created position of director of national service for Norge.

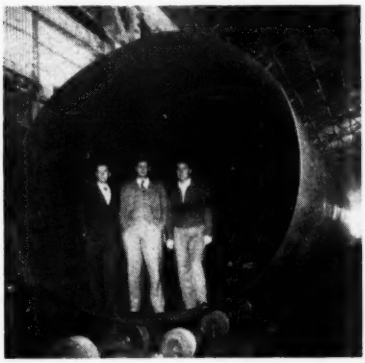
The entire service department is being expanded and the company is giving the same emphasis to service that it is to each of its manufacturing operations.

Mr. Johnson was at one time national service manager. J. H. Webster, who has been a district representative, will take over Mr. Johnson's duties as central regional sales manager.

The loading onto two railroad flat cars, and the delivery of the giant sized butane storage tanks now near-

ing completion at the **Butane Equipment Co.** plant in Dallas, will be an interesting spectacle for passers-by, for plant personnel and for townspeople, as well as for oil men throughout the country, as the big tanks roll toward their destination.

Eleven feet in diameter and 63 feet, 5 inches in length, these storage tanks have a 45,000 gallon water capacity. The tank pictured here is the first of seven to be constructed at the Dallas



Standing in this giant tank shell are John W. Pratt, Albert D. White, and Bazil Noble, officials of Butane Equipment Co., Dallas.

plant of the Butane Equipment Co., Inc. The tanks are being constructed for the Lummus Co., New York City, refinery construction engineers, and are to be used by the Barnsdall Oil Co. of Tulsa. They will be shipped to the Barnsdall Oil Co. at Benton.

In order to keep their dealers informed of available merchandise, the **Southern Gas & Equipment Co.**, Tulsa, Okla., has inaugurated a plan whereby catalog sheets will be sent

NEW . . . *and Beautiful!*

NO. 502 HUMPHREY Radiantfire

THIS new, strikingly beautiful Humphrey Radiantfire introducing new styling, new materials, new methods of construction, is truly a post-war heater of distinction.

Combining rare beauty with heating efficiency of a high order, it is destined to be an outstanding leader in the field of gas burning radiant heaters. Here is luxurious heat — heat like that from a summer's sun — instantly ready to provide clean, cheery, radiant heat for homes everywhere.

Radiantfire heat is inexpensive, for heat is used only when and where it is needed. And the dependability of Humphrey Radiantfires means complete heating satisfaction, and steady PROFITS for you.

REMEMBER THIS — A HUMPHREY PRODUCT — MARK OF QUALITY

GENERAL GAS LIGHT COMPANY
KALAMAZOO, MICHIGAN

23 WARREN ST., NEW YORK CITY — 2ND UNIT SANTA FE BLDG., DALLAS — 225 ELEVENTH ST., SAN FRANCISCO

out weekly as products become plentiful.

According to Glenn Reynolds, it has been both impractical and impossible, because of unsettled conditions, to create a catalog at one time. Discount tags will be attached to the sheets which are to be removed when sheets are placed in a loose-leaf binder. Full information will be printed on heavy enamel paper which will stand long use.

After the complete line has been covered by the catalog sheets, the company will provide a binder to hold the whole catalog.

Guy W. Plank has been appointed district sales manager of the newly established Western sales district of the **L. J. Mueller Furnace Co.**, Milwaukee, Wis., according to a recent announcement.

GUY W. PLANK

A former member of the Mueller organization, Mr. Plank was located at Pittsburgh and Baltimore from 1939 through 1941. In December, 1941, he entered the U. S. Navy, being separated from the service in March, 1946.

Assisting Mr. Plank is W. E. Schourup, who covers the southern part of California and who has been with Mueller for almost 25 years, and The Southwestern Co., Phoenix, Ariz., whose territory includes Arizona and the southeastern portion of California.

Headquarters of the Western sales district is San Francisco. Included in the district are the states of Califor-

nia, Arizona, Oregon, Utah, Nevada and the western parts of Washington and Wyoming.

Representatives of three European companies in the Shell Group recently arrived in this country to observe American marketing methods and to study technical developments in the LP-Gas field.

The visitors are A. M. I. Hoogendam, formerly in charge of the B. P. M. laboratory in Holland; Jean Pignier, director of Societe pour l'Utilisation Rationelle des Gas in Paris, largest LP-Gas distributors in France; and J. D. Aqams, of the engineering department of Shell Petroleum Co., Ltd., London.

W. A. SIEGFRIED

Willis A. Siegfried has been elected to the office of vice president and general manager of the **Superior Valve & Fittings Co.**, according to J. A. Forbes, president of the company.

Mr. Siegfried joined the company as assistant to the sales manager in the summer of 1944. In April of 1945 he was made sales manager and succeeded to the office of vice president in charge of sales in April of 1946.

See Future For LP-Gas In Canadian Markets

By Phil Glanzer

Canada's gas industry, which leaped ahead under the stress of war from a period of doldrums to an extent utilities men had not thought possible, today is planning for an era of even greater expansion.

Across the nation, wherever gas service is freely available, sales charts show an encouraging uptrend; in other centers acute shortages are being felt as supplies are being strained to meet demand. In many areas there is a backlog of orders for gas installations in both homes and business houses.

A new development in the gas field only this year has been liquefied propane gas which is now making a serious bid for a share of the domestic and commercial cooking and water heating markets.

Most Gas Comes from U. S.

This product is being chiefly imported from the United States as yet. Imperial Oil Co. in the east and Hugh Gas Co. in Regina, are marketing the product which, it is estimated by Imperial, might be utilized by some 100,000 consumers, especially in areas where neither natural nor manufactured gas supply is available. In addition to Imperial and Hugh Gas, one or two smaller concerns are importing the gas in tank car lots in the West. City Gas & Electric Corp., Trois Rivieres, Quebec, is also developing this market in the Quebec area.

Sizeable demand is already indicated from restaurants and hotels not already provided with gas service.

In line with the new product, both

Imperial and Hugh are marketing a line of ranges for domestic, hotel, and restaurant use and plan to complete a line of gas-burning appliances such as refrigerators, water heaters and small space heaters.

Brandon, Manitoba, has been selected as the site for a bulk plant by the Home Gas Co., Ltd., according to H. Alty, president, because its geographical position makes it an ideal distributing center for Manitoba.

Get Tank Car Shipments

Liquid propane gas is delivered by tank cars which are spotted on a new siding built to serve the plant. From the cars it is pumped into a huge welded steel tank where it is stored. Gas bottles used for domestic service are than filled from this storage.

At present the buildings on the site consist of a small pump house, a small plant office, and a charging room and loading platform where the bottles are filled. Later a 40 by 40 building will be erected to provide a warehouse and display room.

All the present buildings are sheathed in shiny corrugated aluminum with a red paint trim and the whole area is fenced. The big storage tank which is constructed of one-inch thick steel is 68 feet long and 9 feet in diameter and is the most impressive installation in the area.

Home Gas, Ltd., is a Manitoba company, with head offices in Winnipeg and storage plants in Winnipeg and Brandon, Manitoba, with a combined capacity of 120,000 gallons. The company has also contracted for construction of plants in Moose Jaw, Saskatoon, and Edmonton.

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Several liquefied petroleum gases, used exclusively in Saskatchewan for heating, lighting and cooking purposes, have been taken out of the category of gasoline in accordance

with provisions contained in the Fuel Petroleum Products act, Provincial Treasurer C. M. Fines has stated.

An order-in-council, declaring these liquefied gases "not to be gasoline," became effective Nov. 1.

Binghamton, N.Y., Gas Works Completes Standby Facilities

Reports of a "big fire" on the east side of Binghamton, N.Y., subsided as workmen at the Binghamton Gas Works' new propane gas plant on Broad Ave. completed testing operations.

For the past week, workmen had been mixing air with propane gas preparatory to sending the new gas into mains.

In the process of obtaining the proper mixture, escaping propane gas went skyward through a 4-inch, 30-foot pipe. A pilot light in the pipe kept the gas burning. A forced flame shot skyward and could be seen for several blocks.

"It was spectacular, but harmless," explained Robert E. Williams, district manager of the gas concern.

At the same time, Mr. Williams pointed out that the new gas will help the situation in the area this winter. He said the company's propane gas plant was enlarged this summer and that, now that testing has ended, the extra facilities will go into operation.

Tube Flaring Tool Catalog

Penn Brass & Copper Co., Erie, Pa., has published a four-page folder describing in detail the Papco No. 400 tube flaring tool and the Papco No. 500 tube cutting tool. The catalog is liberally illustrated with explanatory photographs.

Copies of folder are available upon request.

Two Midwest Firms Combine To Expand Operations

Word has been received of the merger of Thermogas, Inc., and the Rapid Gas Co. into the Rapid Thermogas Co, with headquarters in Cedar Rapids, Ia.


R. L. BUCKINGHAM

The company has an extensive distribution system over the states of Iowa, Illinois, and Wisconsin. The companies felt that with the expansion of the industry, they could better serve their dealers if they were operating as one concern.

Officers of the company are Charles O. Russell, president, and Verne Mueller and R. L. Buckingham, vice presidents.

Many benefits are in the offing for dealers handling "Rapid Gas" and "Thermogas." Consumer advertising and promotion will be made available at cost and will be planned to promote the individual dealer in each community throughout the territory. Sales and service schools will be held at frequent intervals and at every plant. Sales and service manuals are now available for all franchise dealers.

A booklet explaining the merger has been mailed to dealers. It sets out the policies of the company and its plans for the future.

Will Ask NFPA to Supplement Code Table With Curve

At the fall quarterly meeting of the Liquefied Petroleum Gas Association board of directors, held in Salt

Lake City in September, a report was received from the technical and standards committee which recommended that the association petition the committee on gases of the National Fire Protection Association to supplement with a curve the table in Appendix A of NBFU Pamphlet No. 58 and that authority be granted to interpolate the table in accordance with this curve.

The T & S committee also suggested that the board of directors of the LPGA recommend that all tanks covered by divisions 2, 3 and 4 of Pamphlet No. 58 be designed for not less than Type 200, except that containers covered by Division 3 may be designed for other types, as now covered in Pamphlet No. 58 when trucks are filled exclusively at points of LP-Gas production.

Standard Oil Co. (New Jersey) Purchases 11 More Tankers

The purchase of 11 tankers from the U. S. Maritime Commission was confirmed in a recent announcement by Standard Oil Co. (New Jersey). Assignment of the ships to the "Esso" fleet will be of material help to the company in its efforts to meet the unprecedented demand for petroleum products.

All vessels are the U. S. Maritime Commission T2 type, with turbo-electric propulsion. Typical of the ships purchased is the "Castle Pinckney," which has been renamed "Esso Everett" after the refinery city of that name in Massachusetts. She is a single screw ship of 16,621 deadweight tons, has an overall length of 523 feet 6 inches, a speed of about 15 knots, and a tank capacity of 138,335 barrels, equivalent to 581 10,000-gallon railroad tank cars.

All of the tankers will be re-named for cities in the Esso marketing area.

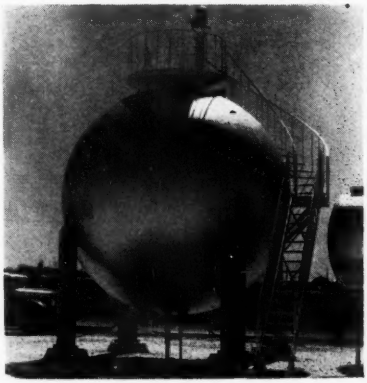
this year by The Keystone Gas Co., Inc., at Olean, N. Y.

The plant near Steubenville, O., is now ready for immediate operation and will be used when needed in the months to come.

Chief among the recent construction was the expanding of storage facilities at several of the plants. Fifty new tanks have been installed, an increase of 70%, bringing the total number of storage tanks at the 6 plants to 121.

Another improvement announced by Mr. Peck was the ability of the companies to have been able to practically fill all tanks before the winter of 1947-48 sets in. Propane was so scarce last year that some of the plants had to shut down for lack of fuel during periods when it was vitally needed.

Mr. Peck said that more than 2,500,000 gallons of propane or butane were in storage on Nov. 1. An additional 3,000,000 gallons will be delivered during the winter season.



A newly installed Hortonsphere of 18 ft. diameter in the plant of the English Butane Corp., Tucson, Ariz. It is for propane storage.